



Mini-Mo' Preamp

With Mo' Control 2 Master Footswitch Controller

OWNER'S MANUAL



SWR • CORONA, CA • USA

IMPORTANT SAFETY INSTRUCTIONS

CAUTION: TO REDUCE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER OR BACK. NO USER-SERVICEABLE PARTS INSIDE. PLEASE REFER TO A QUALIFIED SERVICE TECHNICIAN.

A. READ INSTRUCTIONS: All safety and operation instructions should be read before the product is operated.

B. RETAIN INSTRUCTIONS: The safety and operating instructions should be retained for future reference.

C. HEED WARNINGS: All of the warnings on this product and in the operating instructions should be adhered to.

D. FOLLOW INSTRUCTIONS: All operating and use instructions should be followed.

E. CLEANING: Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a slightly damp cloth for cleaning.

F. WATER AND MOISTURE: Do not use this product near water; for example, near a swimming pool, wet basement, and the like.

G. ACCESSORIES: Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product.

H. VENTILATION: Slots and openings in the unit are provided for ventilation and to ensure reliable operation of the product, to protect it from overheating, thus these openings must not be blocked or covered. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

I. GROUNDING: This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

J. POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon them, paying particular attention to cords at plugs and the point where they exit the product.

K. LIGHTNING: For added protection of this product during a lightning storm or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.

L. OVERLOADING: Do not overload wall outlets or extension cords as this can result in a risk of fire or electric shock.

M. OBJECT AND LIQUID ENTRY: Never push objects of any kind into this product through the openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

N. SERVICING: Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

O. DAMAGE REQUIRING SERVICE: Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- 1) When the power supply cord has been damaged
- 2) If liquid has been spilled or objects have fallen into the product
- 3) If the product has been exposed to rain, water, or other conductive liquids
- 4) If the product does not operate normally by following the operating instructions
- 5) If the product has been dropped or damaged in any way
- 6) When the product exhibits a distinct change in performance.

P. REPLACEMENT PARTS: When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Q. SAFETY CHECK: Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

R. HEAT: The product should be situated away from heat sources such as radiators, heat registers, stoves or other products that produce heat.

SWR MINI-MO' PREAMP • INTRODUCTION

Congratulations on your purchase of the SWR Mini-Mo' Preamp! You now own one of the most unique products in the history of musical instrument amplification.

Here at SWR we share your spirit of tonal exploration and willingness to experiment in pursuit of the ultimate goal: finding equipment that not only does the job for you as a musician, but actually enhances your overall musical experience and contributes to your creative process. The purpose of this Owner's Manual is to help guide you through the process of becoming familiar with the many features and functions of the Mini-Mo' Preamp. But before we get into turning knobs, we'd like you to know a little bit about how the Mini-Mo' Preamp came into existence.

In 2000, after over a year of development, SWR released the Mo' Bass Amplifier, a groundbreaking tube-preamp/solid-state power amp/multi-analog-effects integrated unit that stood the industry on its collective ear. The concept was simple, yet complex: take the world famous tube preamp circuit of SWR founder Steve W. Rabe, marry it with the studio-quality analog effects designed specifically for bass guitar by Nashville engineering legend William "Mo" West III, add 900 watts of stereo/bridgeable solid-state power, stand back and get out of the way. The design, tone and functionality were all tweaked beyond measure by SWR's team of working professional bassists on staff.

The feedback was intense. It won the MIPA award (Musikmesse International Press Award) for "Best Bass Amp" worldwide in 2002. Most Mo' Bass owners thought the unit walked on water, answered their every tone prayer, was the bass amp to end all bass amps. Others sent in passionate suggestions for what they'd like to see in a subsequent revision. Most importantly, we got the same question over and over again: when would it be available as a preamp-only model?

SWR went back to work in early 2002 to produce such a model, but the idea wasn't just to take the Mo' Bass and just throw the pre-amp section in a smaller box. We improved basic features, added new features, listened to customer feedback, re-examined the entire unit. As a result:

- The headroom and the dynamic range of the preamp and equalizers have been significantly increased
- The front end construction was completely reworked for no-nonsense all-metal fastening
- A Tuning Mute function was added—and patching/switching is accessible from both the Mini-Mo' Preamp and the Mo' Control 2 Master Footswitch
- An Overdrive Tone control was added for greater flexibility in dirty sounds
- A Bassynth Level control was added for greater flexibility in achieving unity gain and desired level boosts when using the Bassynth module
- A Chorus Level control was added for greater flexibility in blending in the desired amount of Chorus effect
- A Main Output Defeat switch was added for muting of the post-master audio outputs only
- The Mo' Control 2 Master Footswitch, formerly available only as an accessory, is now included with the Mini-Mo' Preamp, and has been upgraded to include: a Tuning Mute switch on the front, and Tuner Out and Filter Sweep Out jacks on the rear for added convenience in patching to pedalboards (shorter cable runs)

The amount of tone and patching flexibility available in the Mini-Mo' Preamp/Mo' Control 2 system is impossible to describe in just a paragraph, but we'll try. 13 audio outputs; 6 post-master, 7 pre-master; 11 unbalanced and 2 balanced. The ability to split the signal into clean and dirty channels by using the Dual Mode function. Run audio to a stereo power amp, a mono power amp, several power amps at once, a front-of-house mixing board, a studio console, an external effects unit, store preset groups of effects, make Mo' Control 2 a MIDI controller and automatically add reverb or delay to existing combinations of Mini-Mo' effects...or just run it clean into your power amp of choice, and experience the SWR Sound for yourself. With extra in reserve.

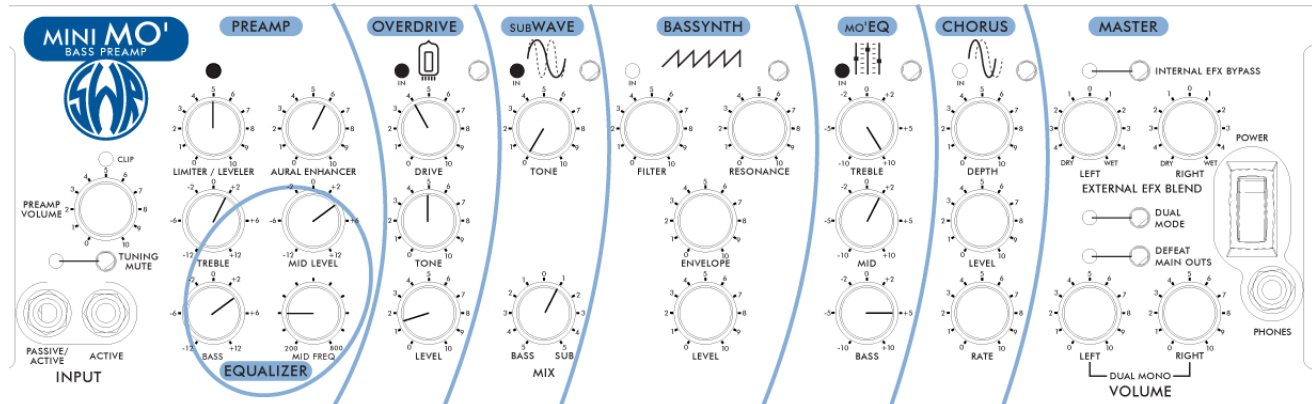
But please read the manual first, thoroughly and completely, so that you can realize the practically limitless potential of the SWR Mini-Mo' Preamp/Mo' Control 2 system. This way we can help you find your voice, your vision, your sound. And it's our privilege as a company to be there with you along for the ride.

Sincerely,

SWR

NOTE: Please take a moment to verify that the following items were included in your SWR Mini-Mo' packaging: Mini-Mo' Preamp, Mo' Control 2 Master Footswitch, AC Cable, 25 ft. HD15 cable, SWR Catalog.

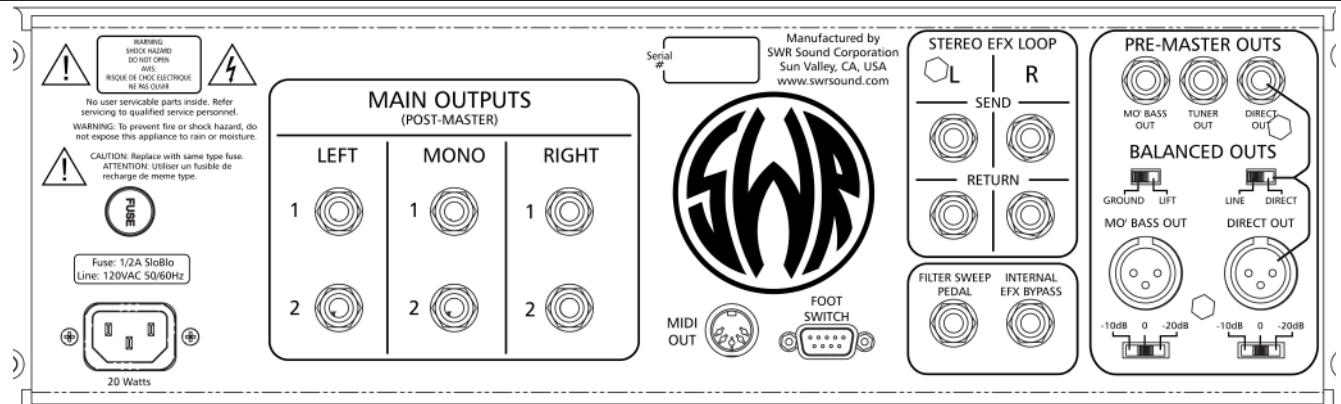
MINI-MO' PREAMP - FRONT PANEL FEATURES



- Dual independent input jacks compatible with both passive and active instruments
- Tuning Mute Switch with red LED indicator
- Preamp Volume Control with red LED peak clipping indicator
- Variable Limiter/Leveler Control with yellow LED indicator
- Aural Enhancer Control
- Treble Level Control
- Midrange Level Control
- Midrange Frequency Control
- Bass Level Control
- Overdrive "Drive" Control
- Overdrive Tone Control
- Overdrive Level Control
- Subwave Tone Control
- Subwave Mix Control
- Bassynth Filter Control
- Bassynth Resonance Control
- Bassynth Envelope Control
- Bassynth Level Control
- Mo' EQ Treble Control
- Mo' EQ Midrange Control
- Mo' EQ Bass Control
- Chorus Depth Control
- Chorus Level Control

- Chorus Rate Control
- Push switches and unique-colored LED indicators for on/off control of all effects
- Internal Effects Bypass Switch with LED indicator
- Left and Right External Effects Blend Controls
- Dual Mode Switch with LED indicator
- Defeat Main Outs Switch
- Left and Right Master Volume Controls
- Illuminated Neon Power On/Off Switch
- Stereo Headphones Jack
- Screwholes for Rack Mounting (on chassis in each corner)

MINI-MO' PREAMP - REAR PANEL FEATURES



Pre-Master Audio Outputs

- Direct Out 1/4" Jack
- Tuner Out 1/4" Jack
- Mo' Bass Out 1/4" Jack
- Direct Out 1/4" XLR Jack
- Mo' Bass Out XLR Jack
- Line/Direct Switch for 1/4" and XLR Direct Out Jacks
- Individual 3-position Pad Switches (0 db, -10 db, -20 db) for both Direct
- Out and Mo' Bass Out XLR jacks
- Ground/Lift Switch for both Direct Out and Mo' Bass Out XLR jacks
- Stereo Effects Loop (Left and Right Send and Return Jacks)
- Internal Effects Bypass Footswitch Jack
- Filter Sweep Pedal Jack
- "Mo' Control 2" Footswitch jack (shown as "Foot Switch")
- MIDI Out jack

Post-Master Audio Outputs

- Two 1/4" Left Main Output Jacks
- Two 1/4" Right Main Output Jacks
- Two 1/4" Mono Main Output Jacks
- One Line Fuse (3AG, 1/2 amp slow-blo)
- AC Power Cord Receptacle

MINI-MO' PREAMP ELECTRICAL SPECIFICATIONS

NOTE: All measurements were taken with a line voltage of 120VAC. All noise specifications are "unweighted." All voltages and watts are "RMS." All measurements taken with tone controls set flat, Aural Enhancer at minimum, all effects disengaged.

Sensitivity

Passive Input Jack: 42 millivolts
Active Input Jack: 84 millivolts
All line outputs: +4 dbm
Tuner out: -10dbm
Effects Return Jack input: +4 dbm

Input Impedance

Passive/Active Input: 1 Meg Ohms
Active Input: 47K Ohms
Effects Returns: 27K Ohms

Output Impedance

Effects Sends: 220 Ohms
Tuner Output: 220 Ohms
XLR Balanced Out: 750 Ohms

Signal To Noise Ratio

-88 dB (<10 millivolts typical)

Equivalent Input Noise

15 nanovolts per root/hertz

Dimensions (depth includes handles and XLR pad)

19" W x 5.38 " H x 9.5" D (three rack spaces; depth not including handles)

Weight

10 lbs.

MINI-MO' PREAMP - GETTING STARTED

CONNECTING THE MINI-MO' PREAMP TO A POWER AMP

The Mini-Mo Preamp comes equipped with 13 audio outputs on the rear of the unit: six 1/4" post-master ("main") outputs, two 1/4" pre-master outputs, a 1/4" tuner out, two balanced XLR outs, and two 1/4" effects sends (left and right). For connecting to a power amp, use the Main (post-master) Outputs. If your power amp is operating in stereo, connect the left and right outputs (one of each, unless you are running multiple power amps) on the Mini-Mo' Preamp to the corresponding inputs on your power amp. If your power amp is operating in mono—or if you wish to use a single audio input source, and your stereo power amp features a "Y" input feature—use either one of the mono outputs.

We recommend using the Mo' Control 2 Master Footswitch (supplied with your Mini-Mo' Preamp) with the Mini-Mo' Preamp whenever a live application is desired. To connect it, simply connect the proper male and female ends of the 25-foot black HD15 cable (the ends look exactly like a monitor cable for a computer) to both the "Foot Switch" jack on the rear of the Mini-Mo' Preamp and the "To Mini-Mo' Footswitch Jack Only" jack on the rear of the Mo' Control 2. The switches and LED's on the Mo' Control 2 will correlate to their respective functions on the front panel of the Mini-Mo' Preamp. For more details on preset groups and other advanced Mo' Control 2 operations, please consult the Mo' Control 2 section later in this manual.

TURNING ON THE UNIT

Remove the AC cable from the accessory pack and connect it from the amplifier to a standard wall outlet. Make sure that the Preamp Volume control, both Master Volume controls, and the volume controls on your power amp are set to the minimum position. Locate the power switch on the right side of the front panel and turn the Mini-Mo' Preamp on. The power switch should then illuminate in red. Now turn your power amp on. Remember, in a modular setup, always turn on a power amp last and turn off a power amp first. Conversely, always turn on a preamp first and turn a preamp off last. This is to ensure that the preamp turning on and off is not amplified by the power amp into your speaker cabinets.

In the event that you execute this process in the wrong order, upon powering up, don't be surprised if you hear a small pop. This is absolutely normal. (Eliminating this "power on transient" would require a component called a relay. SWR chose not to incorporate this type of component due to the fact that relays degrade signal quality and often fail, causing the unit to have no output and requiring a trip to a local service center.) Also, the preamp tube will take approximately 10 seconds to warm up before producing signal. This too is normal.

GETTING SOUND OUT OF THE MINI-MO' PREAMP

NOTE: Remember to ensure that your power amp volume is still set to "zero," or the minimum setting before starting this process.

Plug your instrument into the desired input jack (please refer to "Mini-Mo' Preamp—Front Panel Features" for more detail). Turn your instrument's volume up to at least 75% of maximum and slowly adjust the Preamp Volume control. Keep playing and turning the Preamp Volume control up until you see the red LED illuminate, indicating preamp clipping. (With passive basses, you may be able to run the control as high as '8' or '9' before any clipping occurs.) Then back off on the Preamp Volume about two numbers on the dial.

Set the Master Volume controls—both left and right, regardless of stereo/mono operation of your power amp—both to "10", the maximum. This is to ensure that the maximum amount of level is driving your power amplifier. Now, slowly turn up the volume control(s) on your power amplifier. You should now hear the sound of your instrument amplified through the Mini-Mo' Preamp into your power amplifier, and subsequently through the speaker cabinets (as well as the stereo headphones jack). If you find that your power amp is seeing too hot a signal, back off on the Master Volume controls, not the Preamp Volume. For more detailed information, please read the entire manual carefully, as the Mini-Mo' Preamp is an extremely dynamically sensitive unit, and the concept of "gain structure" is very important and will be discussed in great detail.

MINI-MO' PREAMP - FRONT PANEL FEATURES

INPUT JACKS

Both input jacks accept a standard 1/4" phone plug and both inputs can be used at the same time. Since the two inputs are totally independent, no loss in volume or tone will occur by using two instruments simultaneously. However, the main applicational use for the two separate input jacks is their difference in level, as the Passive/Active input has five times more gain than the Active input. In other words, it's not necessarily intended as a "submixer" for two instruments, but no harm will come from having two instruments plugged in at once—although in some instances, phasing problems can be caused by the characteristics of the instruments being used.

A WORD ABOUT GAIN STAGES

One of the most important concepts to keep in mind when using the Mini-Mo' Preamp is what we mean by "gain stages." Think of dominoes—when they're lined up in a row, the first one to fall will affect everything behind it. That's how a signal path works, and everything added along the way contributes to the overall "gain." If the very beginning of the signal path is loaded up with too much gain, everything behind might not behave the way you might like.

Some people like to use certain effects—especially foot pedals—in front of their amplifier. In the case of the Mini-Mo' Preamp, it's important that any pedal have an output close to unity gain in relation to its input. In other words, any pedal that might add a lot of gain to the signal may be better off in the effects loop than in front of the amplifier.

A signal path will have several "gain stages" in the internal circuitry of the preamp and power amp alone, even before you start adding effects. Just remember that every time you change something in the signal path, most likely a level will change. That altered level will then feed the next part of the chain with more or less input signal, which in turn will multiply every time the level increases or decreases due to an effect being engaged. And so on, and so on, and so on...

PASSIVE/ACTIVE INPUT JACK

The Passive/Active Input Jack is the most often used input jack and is the recommended starting point for most SWR users. Connecting your instrument to this jack via a shielded instrument cable will send the signal from your instrument to the initial preamp stage section of Mini-Mo' Preamp, where it can be adjusted before being sent on through the onboard effects and then to the Master section.

In this instance, "Passive" refers to an instrument that does not contain a built-in preamp and does not utilize a battery. Although labeled "Passive," this input jack will work with all instruments having a maximum output of 1 Volt RMS or less. Many professional instrument pick-ups employ batteries for operation and will work perfectly with this input, as will most professional instruments that contain active electronics.

Generally speaking, try this input first. If you hear a small amount of distortion and the preamp clip LED is not activated, try using the Active input jack. If the Active input does not correct any audible distortion, check the battery in your bass.

ACTIVE INPUT JACK

The Active input jack should be used with instruments having a built-in (on board) preamp or other sound sources that will produce output levels greater than 1 volt RMS. The number of bass manufacturers has increased significantly over the years, and it's impossible to try and keep track of them all. Generally, if you have very "hot" pickups and/or tone controls installed in your instrument, and you use them to boost the level of your bass signal 10 dB or more, you may find the Active input more compatible. The best judge is your own ears.

If you're using a keyboard or bass pedal with the Mini-Mo' Preamp, we have found the best choice to be the Active input.

NOTE: Using the Active input with passive basses (active instruments will always employ a battery) may result in a loss of high end transients. Players who roll off their high end starting at about 2kHz, or prefer a "darker" sound, may find this input more to their liking.

If you hear some distortion with your active bass and are using the Active Input, make sure the preamp clip LED indicator is not lighting. If the preamp stage is not being driven into clipping, replace the battery in your instrument.

TUNING MUTE SWITCH

This switch mutes 12 of the 13 audio outputs on the rear of the Mini-Mo' Preamp, leaving only the Tuner Out signal present. This allows for silent tuning without signal being sent anywhere else. In addition to the Tuner Out jack on the rear of the Mini-Mo (for rack mounted tuners), there is a Tuner Out jack located on the rear of the Mo' Control 2 Master Footswitch (for pedalboard tuners), so short patching is never an issue when using a pedalboard. Both Tuner Outs remain live when the Tuning Mute is engaged.

PREAMP CONTROLS

PREAMP VOLUME CONTROL

This control adjusts the volume of the Preamp section. A red LED is located above the control. As mentioned in the "Getting Started" section, that LED will illuminate if the level is set too high, which indicates that the preamp is clipping. In order to achieve maximum signal-to-noise ratio, set the Preamp Volume to where the LED barely turns red upon striking your hardest note. However, this may not be the optimal setting when using effects, so you may want to back off even further until you're done exploring the levels of all of the effects on the Mini-Mo' Preamp.

NOTE: Even though the Preamp Clip LED turning red indicates that at some point the preamplifier is clipping, no harm is being done to your amplifier.

LIMITER/LEVELER

The Limiter/Leveler circuit is a tube limiter that helps control the dynamic range of the preamp. The Limiter/Leveler control sets the "threshold" for the circuit, which is the level at which limiting begins to take effect. The yellow LED above the control will illuminate, indicating that the Limiter is active. Loss in volume caused by extreme limiting can be overcome by increasing the levels of the Master Volume controls, as well as various controls for the onboard effects.

When processing a signal to a minor degree, the Limiter/Leveler simply puts a ceiling on the signal and gently suppresses the peaks, creating a very smooth, even sound. As the signal is processed to a greater degree, the sound becomes more compressed and the dynamic range of the preamp more limited. Because it uses a tube to accomplish this, the Mini-Mo' Preamp Limiter/Leveler has an extremely natural effect on the instrument's signal, much like the classic leveling amplifiers used in professional studios around the world.

You may want dial in some of the Limiter/Leveler control even though you aren't clipping the preamp. It's a very musical limiter and can be used in several ways. For clean sounds, it can help smooth out rough edges. When used with the Overdrive, you can achieve some very interesting sounds depending on where the "Drive" control is set. Try different settings and see what works best for you.

NOTE: If the Limiter/Leveler control is set at maximum and still no limiting effect occurs, the Preamp Volume control is probably set too low and should be increased to a desired level.

AURAL ENHANCER

The Aural Enhancer is a feature that's been on just about every SWR amplifier since the company's inception in 1984, and is a trademark part of the "SWR Sound" people have come to know and love. It was developed to help bring out the fundamental low notes of the bass guitar, enhance the high-end transients, and reduce certain frequencies that help "mask" the fundamentals. The ultimate result is:

1. A more transparent sound, especially noticeable when slapping and popping.
2. It can make a passive bass take on an "active" type of quality when set at positions of "2 o'clock" or further clockwise.

Let's take a second to learn how the Aural Enhancer works. Think of it as a variable tone curve that changes depending on where you set the Aural Enhancer control knob. As you raise the control clockwise from the "MIN" position, you are elevating a whole range of sound (lows, mids, and highs) at a variety of frequency points selected specifically because they're different than those selected for the individual tone controls.

This remains true up to about the "2 o'clock" position. This position-a favorite for many users-brings out both the low end fundamentals and crisp highs and, at the same time, adds a little lower midrange to help cut through the band. However, if you go further clockwise and past the 2:00 position, selected mids will start to drop off-specifically, a group of frequencies centered around 200 Hz. At this point and after, the effect becomes much more pronounced. However, the curves involved here are gentle, as opposed to the very extreme curves you can create by boosting or cutting the active tone controls (EQ).

Most significantly for basses, the Aural Enhancer will help bring out the fundamentals of your lower registers without masking them with overtones, as is possible when using the Bass control only. At the same time, it opens up the sibilance characteristics of all instruments without being harsh.

Obviously, numbers and curves and circuits all mean nothing compared to what you hear with your own ears. Play a chord, a repeated lick, or a harmonic, and turn the Aural Enhancer control to various points on the knob to hear the effect for yourself. As always, your ears are the best judge when it comes to settings that affect the tone of your instrument.

TREBLE CONTROL

The Treble control is a shelving-type tone control that cuts or boosts high frequencies up to 12 dB in either direction. Starting from mid-position ("flat"), turning the Treble control counter-clockwise cuts the highs, while turning the control clockwise boosts the highs. The shelving point for this control is about 2 KHz.

MIDRANGE CONTROLS

Your Mini-Mo' Preamp comes equipped with two different controls for setting the amount of midrange present in the pre-amp section: one for boosting and cutting the level of midrange, and another for setting the specific midrange frequency that will be adjusted in level.

MID LEVEL CONTROL

The Mid Level control cuts or boosts up to 12 db the frequency set by the Mid Frequency control. Starting at mid-position, turning the Level control counter-clockwise cuts the desired tone. Turning the Level control clockwise boosts the desired tone (set by the Mid Frequency control). When the level control is set at mid-position ("center-click"), turning the frequency control will have no effect on the sound.

To find the midrange area you are looking for:

1. Adjust the Mid Level control to the full boost or cut position.
2. Rotate the Mid Frequency control until the desired area you wish to cut or boost is found.
3. Adjust the Mid Level control to the desired amount of cut or boost.

MIDRANGE FREQUENCY CONTROL

The Midrange Frequency control sets the area that is to be cut or boosted by the Midrange Level control. If the Midrange Level control is set at mid-position, turning the Frequency knob will have NO affect.

Some hints: If you need to "cut through" the band a little more, try boosting 200 to 400 Hz. If you like a more transparent or "scooped" sound, try cutting at 800 Hz. The midrange controls are especially useful in controlling fretless basses and their inherent qualities.

BASS CONTROL

The Bass Control is a shelving-type tone control that cuts or boosts the low frequencies up to 12 dB in either direction. Starting from mid-position (flat), turning the control counter-clockwise cuts the bass response, while turning the control clockwise boosts the bass response. Shelving point for this control is about 80 Hz.

A FINAL NOTE ON THE PREAMP CONTROLS:

Select each control to your taste, but remember that the more heavy EQ you have on the front end, the more EQ you will have going into the Mini-Mo' Preamp effects—sometimes a good thing, sometimes not. As always, your own musical preferences will come into play.

PREAMP TUBE

Though not a "control" function of the preamp, you should be aware that the preamp in your SWR Mini-Mo' Preamp is a tube preamp. The tube is a specially selected 12AX7 and should not require replacement for one to three years, depending on usage. The tube is also used for another key function in the unit, specifically...

OVERDRIVE

Yes, the Mini-Mo' Preamp Overdrive is a Tube Overdrive. Just because there's no 50-pound tube power amp in the Mini-Mo' Preamp doesn't mean you can't get the sounds of tube-driven distortion! It works off of the very same specially selected 12AX7 preamp tube mentioned above. We've taken extra care to ensure that, unlike most bass distortion units, there is no significant damage to the fundamental note—specifically in the low end.

OVERDRIVE "DRIVE" CONTROL

This control determines how heavily the tube overdrive circuit will distort the signal. With the control set at minimum '0', there will be only the tiniest amount of "dirt" present in the signal path. The higher the knob is set, the dirtier the signal will get. Fully counter-clockwise ('0') is minimum, while fully clockwise is maximum. Note that the way you attack your strings will have an effect on the amount of drive as well. Try playing both harder and softer with this control set at '3', and you'll see what we mean when we say that the controls are "dynamically sensitive."

OVERDRIVE TONE CONTROL

This is a passive tone control for the overdrive circuit. Set to maximum, it allows the fullest range of high end frequencies possible into the audio path of the overdrive circuit. Turning the knob counter-clockwise reduces the amount of high end present. The more "drive" is engaged, the more drastic the effect of the overdrive tone control. Using this control in conjunction with the Mo' EQ treble and midrange controls allows for an incredible amount of dirty tone flexibility.

OVERDRIVE LEVEL CONTROL

This control determines the volume of the Overdrive circuit, and works in conjunction with the Drive control to help you keep your levels where you want them when switching back and forth between clean and dirty sounds. Fully counter-clockwise ('0') is minimum, while fully clockwise is maximum.

NOTE: Be careful when boosting this control beyond '5' on the dial—it will get really loud when the Drive is also engaged!

USING THE OVERDRIVE

Start with the Drive and Level controls low! Set the Overdrive Tone control to '5'. Now press the Overdrive switch and the red LED should illuminate. If both Drive and Level controls are set at minimum, there will only be a slight boost in overall level. Try slowly raising the Drive to '4', and then the Level to '2'. There should now be a noticeable difference between this and the "clean" sound. This is a good reference point to see how much boost and distortion you want out of the Overdrive.

The Drive and Level controls are designed to work together to give you a workable overall level when using the effect. If you are using heavy amounts of Drive, you may want to reduce the Level to match your clean signal level. If you're only using a touch of Drive, be sure to increase the Level control to bring you back to unity gain with your clean signal. The Tone control will not boost or cut the true level of the signal, but higher settings on the Tone control may seem louder because of the way high-end "cuts" when overdriven. You can use the Level control to have your Overdrive effect act as a "boost" as well simply by setting the Level and Drive controls to equal a higher level than your clean signal. Switch the effect on and off for level comparison.

Engaging the Overdrive reduces the effect of the Preamp EQ (the higher the Drive, the less Preamp EQ will affect the signal), so you may want to use the Mo' EQ to achieve additional tone flexibility. The Mo' EQ Mid and Treble controls in particular can greatly affect a heavily overdriven signal. Don't forget to try using the Limiter/Leveler in conjunction with the Overdrive, especially on sounds with just a touch of dirt to them (low on the Drive and high on the Overdrive Level). And remember, you can blend in your original "clean" signal by using the Dual Mode function and adjusting the left (clean) and right (wet) Master Volume controls. Please see the sections marked "Mo' EQ" and "Dual Mode" later in the manual for more details.

SUBWAVE

The Mini-Mo' Preamp SubWave is a lightning-quick sub-octave wave engine. In plain terms, it hears the note you play and immediately generates a signal one octave below it. You may have heard the term "octave pedal" before. You may have even used one. If so, welcome to the next generation of sub-octave signal processing.

SUBWAVE TONE CONTROL

This control is very much like the tone control on a passive bass. It simply cuts high frequencies. When set counter-clockwise to the minimum ('0'), it cuts the maximum amount of highs possible. When set clockwise to the maximum position ('10'), it leaves the subwave's high end wide open. Note that this tone control only affects the one-octave-below signal generated by the SubWave engine. It will not affect your clean bass signal.

SUBWAVE MIX CONTROL

This control allows you to blend your original bass signal with the SubWave signal to suit your musical taste. The mid-position of this control is a 50/50 split between clean and sub-octave signals. When set counter-clockwise to the "bass" position, you will hear 100% original bass signal and no SubWave. When set clockwise to the "sub" position, you will hear 100% SubWave and no original bass signal.

USING THE SUBWAVE

For most applications, set the SubWave Tone control at minimum ('0') and the SubWave Mix control at the mid-point. Now press the SubWave switch and the blue LED should illuminate. These settings will give you the most basic "sub-octave" sound. Now try slowly increasing the SubWave tone control up to '5' on the dial. You will notice that the overall sound is now more synth-like. This is normal. You can now adjust the SubWave Tone control to taste.

NOTE: Even though the Preamp Clip LED turning red indicates that at some point the preamplifier is clipping, no harm is being done to your amplifier.

Be sure to remember to set the SubWave Mix control back at '0' before disengaging the effect during your experimentation. Why? Because as we mentioned, when the Mix control is all the way at "sub" there is no "original bass signal" present in the signal path. The level of the pure SubWave is much lower than the bass guitar signal. So if you switch the SubWave effect off when the SubWave Mix control is all the way at the Sub position, and your original bass signal has a lot of EQ on it—and especially if the Overdrive is engaged—you may get a boost in your signal level you weren't expecting!

BASSYNTH

Based on the design of a classic analog synthesizer, this effect generates a sawtooth waveform that can be altered by the Filter, Resonance or Envelope controls. The level can then be set to match unity gain with the unaffected bass signal using the Level control. You can also blend in your unaffected bass signal by using the Dual Mode function and adjusting the left (clean) and right (wet) Master Volume controls. Please see the sections marked "Dual Mode" later in the manual for more details.

The Bassynth on the Mini-Mo is a traditional analog sawtooth wave generator, which is an important distinction from what has seeped into modern consciousness. People hear "synth" with bass and think Mu-Tron, which is an envelope follower. This is much more of a traditional "Moog" sound, touch sensitive and fast-tracking. Think "Boogie On Reggae Woman." (If you haven't heard this Stevie Wonder classic, it's time to head out to the record store and buy his CD Fulfillingness' First Finale. Trust us on this.)

This is the most dynamically sensitive and complex of all the effects on the Mini-Mo' Preamplifier. We strongly recommend that you read the entire Bassynth section carefully—both the control knob definitions and the guide to using them—so you can get the most out of this incredibly musical effect.

BASSYNTH FILTER CONTROL

This control allows the user to take away certain overtones that are present in the raw waveform (otherwise known as "Subtractive Synthesis"). In simple terms, it acts like an equalizer for the waveform—taking away treble but not adding bass. When set counter-clockwise to the minimum position ('0'), the filter is "fully closed" and will subtract as many overtones as possible.

When set clockwise to the maximum ('10'), the filter is "wide open" and subtracts nothing. In addition to the control knob, input gain and how you attack your strings are just two of the many things that can affect when the filter opens and closes. Please refer to the "Using The Bassynth" section for more details.

BASSYNTH RESONANCE CONTROL

This function allows a narrow band of frequencies (the resonant peak) on the filter to become relatively more prominent. Filter resonance is also known as "emphasis" and "Q". It is also referred to in some older instruments as regeneration or feedback, because feedback was used in the circuit to produce a resonant peak. It produces a very distinctive sound in the analog filter process, and is an important part of the overall sound produced by the Bassynth. When set clockwise to the minimum position ('0'), there is no resonant peak present and the frequencies are sent evenly across the spectrum through the filter. As you increase the knob, the prominent band of frequencies sent through the filter will narrow and the effect will become more dramatic. Please refer to the "Using The Bassynth" section for more details.

BASSYNTH ENVELOPE CONTROL

The Envelope control is a signal-processing device in the Bassynth that controls amplitude over a certain time frame. In not-so-technical terms, it gives the sound its shape. The Envelope control tells when the Bassynth should go up and down in volume, and the time it should take to go up and down. In addition to the control you have on the knob itself, these parameters are also in the hands of the player as they can be controlled by the dynamic articulation of the musician through string attack. This control creates the "wah" type effect.

When set clockwise to the minimum position ('0'), the Envelope will affect the signal as quickly as possible, so quick that it will have practically no affect at all. As you increase the knob, the Envelope effect will slow down, allowing you to hear the shift in amplitude. Please refer to the "Using The Bassynth" section for more details.

BASSYNTH LEVEL CONTROL

The Bassynth Level control is a very important factor in terms of using the effect in live applications when switching back and forth between unaffected signal and Bassynth signal. You'll notice that, with high settings on the Bassynth Resonance control, the perceived volume changes greatly in comparison with the unaffected bass signal—it is reduced. That's because when you set the resonance high, the "Q" is more drastic, which basically sucks out a wide group of midrange frequencies and brings them back over time (the time setting is determined by the envelope control). That sounds great—it provides the spank everyone likes from a synth—but those missing frequencies at the point of string attack negatively affects bassists insofar as that, seemingly, the fundamental note is gone when you hit the string. So in a band setting, it could sound like your level has gone down. But with the Bassynth Level control, level losses caused by high resonance settings can now be accounted for by setting the Level control higher. It allows for unity gain at the most extreme resonance settings, and even a gain boost if desired.

You'll also notice that, when the resonance is set lower for more of a "Gap Band" flat synth sound, the level increases greatly. The Bassynth Level control can be adjusted down to make sure there's no massive level disparity in this instance as well. Try different settings on both the Bassynth Resonance and the Bassynth Level controls, and switch the effect on and off (using the Bypass switch), and it should become evident fairly quickly.

USING THE BASSYNTH

The Mini-Mo' Preamp Bassynth will react differently to every single user. Factors such as the kind of bass, the EQ of the bass, the pickup selection on the bass, the technique of the player, the Preamp volume of the Mini-Mo' Preamp, the control settings of the Bassynth itself, and the Bassynth Mix control will all come into play. Spend some time with it and become comfortable—you'll probably stumble across a sound that we haven't even heard yet. Here at the factory, it happens to us all the time!

The following is a "road map" for getting acquainted with the Mini-Mo' Preamp Bassynth. For simplicity's sake, we used a typical Jazz bass for the following examples.

Start by setting the Preamp Volume on the Mini-Mo' Preamp to '5'. Set the Filter, Resonance and Envelope controls to minimum ('0'). Now set the Bassynth Mix control all the way to "Synth." Press the Bassynth switch and the amber LED should illuminate. Start playing your bass. You should hear practically nothing. Don't panic—this is normal.

Now bring the Filter control up to '3' on the dial, and play again. You should now start to hear some sound. Turn the Filter control further up to '7', and a very obvious "synth" sound should be present. Try attacking the strings both harder and softer. When you play harder, more high frequency should be present. A softer attack will result in a "darker" sound. This is what we mean when we say that the Bassynth is a highly dynamic effect.

Now let's try the Resonance control by setting it to '6' on the dial. When you increase the resonance, the signal will decrease slightly in overall level because you are taking away certain frequencies upon the initial attack. This is normal. The sound should now resemble that of a classic synth even more. Try experimenting with your string attack again—things about the tone will change. Try both the Filter and the Resonance controls in various positions...and try not to let time get away from you!

Let's move on to the Envelope control. First set the Filter control at '2' and the Resonance control at '7'. Now strike an open note and slowly turn the Envelope control until you hear a "wah" sound. The harder you play, the more present the "wah" will become. At this point, all three Bassynth controls are working in harmony and all will affect each other. For instance, if you open up the Filter too much, the "wah" from the Envelope may go away. If you close the Filter too much, the Envelope won't have a chance to "wah" anything. How you attack the strings can make all the difference in the world.

Finally, try switching back and forth between having the Bassynth effect engaged and disengaged. If you hear a difference in levels not to your liking, use the Bassynth Level control to achieve the proper balance (as mentioned previously in the section marked Bassynth Level control).

With an active bass, the overall gain structure will be slightly different. You may find you want to back off on the Preamp Volume of the Mini-Mo' to keep the Bassynth from seeing too hot a signal. Also, the tone controls on your active bass will greatly affect the Bassynth. One particular example: your midrange control may directly affect the sensitivity of the Envelope control.

You've now got three onboard controls, your bass and your fingers to find new sounds within the Bassynth. Mix and match at will!

Once you've fully explored the possibilities, try adding the SubWave to the Bassynth. Now both the SubWave and the Bassynth signals will be affected by the Filter, Resonance and Envelope controls. (It should be noted that when the SubWave effect is activated, the raw sub waveform is routed to the Bassynth, regardless of where the SubWave Mix and SubWave Tone controls are set.)

Want more? Add in the Mo' EQ. Try experimenting with each of the tone controls individually—they'll all do something unique to the sound of the Bassynth.

Not satisfied yet? Throw the Chorus into the mix. Now try some experimenting.

Also try using the Dual Mode function. This will allow you to blend the original, unaffected signal back into the chain by using the stereo Master Volume controls. The left side will control the unaffected signal, while the right side will affect the Bassynth's signal, as well as any effects engaged. (Please refer to the "Dual Mode" section for more details.) There are plenty of creative choices to make, and we encourage you to make them.

USING THE BASSYNTH IN CONJUNCTION WITH THE OVERDRIVE

You will notice a significant difference in tone between operating the Bassynth with the Overdrive off, and operating the Bassynth with the Overdrive engaged. That's because, when the Overdrive is engaged, the Bassynth no longer generates a sawtooth wave through the filter for its main tone. Instead, it reverts back to the sine wave coming out of the Overdrive circuit. The resulting sounds are quite interesting. With minimal drive settings on the Overdrive "Drive" control, it emulates an envelope follower sound, though not in the traditional fashion. With more edgy overdriven sounds going through the filter, the "distorted filter" effect becomes more drastic. Explaining it doesn't do it a whole lot of justice. We recommend trying it out. It might open up a whole new realm of unique tonal possibilities for the right moment in the right tune.

FILTER SWEEP PEDAL

We've provided the ability to control the opening and closing of the Bassynth's filter with an "expression" foot pedal, like the type of pedals commonly used with keyboards (the Roland EV-7 is a good example). Simply plug the pedal's STEREO cable into the "Filter Sweep Pedal" jack on the rear of the Mini-Mo' Preamp—or, for pedalboard patching convenience, on the rear of the Mo' Control 2 Master Footswitch, where a similar jack is located. Set the Filter control to the minimum ('0'). Then strike a note and slowly move the pedal back and forth. From one end of the pedal to the other, you should hear the entire range of the filter. The Filter Sweep Pedal will start at whatever point you preset on the Mini-Mo' Preamp Filter control (be it '0', '3', '6', etc.) and open up the filter from that point up to '10'. Remember, just because you have the pedal in the circuit doesn't mean that the Bassynth won't react to the dynamic sensitivity of your attack—it's still touch-sensitive.

NOTE: You can use a standard volume pedal for this function, but you will need a special cable called an "insert cable." Plug the two "mono" ends into your volume pedal's in/out jacks and plug the "stereo" end into the Mini-Mo' Preamp "Filter Sweep Pedal" jack.)

There are so many potential combinations of sounds when using the Bassynth in conjunction with the other effects in the Mini-Mo' Preamp that even we couldn't pretend to know them all. And even if we did, it's probably best that you discover them for yourself. Take your time, turn the knobs slowly, and have at it.

MO' EQ

This EQ is a fundamentally different type of EQ than the one found in the preamp stage of the Mini-Mo' Preamp. Technically speaking, the Mo'EQ is a "band pass filter" type of EQ, while the Mini-Mo's preamp section contains semi-parametric and shelving types of EQ. A "band pass filter" EQ has a fixed bandwidth, with the cut or boost affecting only the frequencies within the bandwidth parameter. The bandwidth at the frequencies specified for each tone control is one octave.

MO' EQ TREBLE CONTROL

The band pass filter on this EQ control is set at 10 kHz. That's high for the typical bass amp, but effective when used in conjunction with the onboard effects. Starting from mid-position, turning the Mo' EQ Treble control counter-clockwise cuts the highs at 10 kHz, while turning the control clockwise boosts the highs at 10 kHz. Boosting 10kHz will add a subtle, yet sweet "glassy" overtone to the signal.

MO' EQ MIDRANGE CONTROL

The band pass filter on this EQ control is set at 1.5 kHz. Starting from mid-position ("flat"), turning the Mo' EQ Midrange control counter-clockwise cuts the upper mids at 1.5 kHz, while turning the control clockwise boosts the mids at 1.5 kHz. Cutting 1.5 kHz can help you "scoop" the EQ for a more transparent sound, while boosting it will help accentuate the upper mids of your tone.

MO' EQ BASS CONTROL

The band pass filter on this EQ control is set at 40 Hz. That's very low for the typical bass amp, but very effective in conjunction with the onboard effects. Starting from mid-position ("flat"), turning the Mo' EQ Bass control counter-clockwise cuts the lows at 40 Hz, while turning the control clockwise boosts the lows at 40 Hz. Boosting 40 Hz is something you may feel rather than hear...but boy, you'll feel it. We recommend using some caution when operating this control. It could cause the wrong speaker cabinet to wince in pain and cry for mercy. Turn the knob slowly, OK?

USING MO' EQ

Like we've been saying all along, it's better to have certain kinds of EQ post-effects rather than pre-effects. The Mo' EQ was designed primarily—though not exclusively—to enhance the characteristics of the onboard effects. To engage the effect, press the Mo' EQ switch and the green LED should illuminate.

When used in conjunction with the Overdrive, the Mo' EQ Bass control can help boost low-end along with a boost in gain and overall level. The Mo' EQ Midrange and Treble controls can help define and bring to prominence just the right "edge" on your overdriven signal. It can also produce feedback, which could be a good or bad thing depending on how you feel about it.

The SubWave generates enough extra low-end all by itself for most people, but maybe you really want to shake the house. Boost the Mo' EQ Bass control while engaging the SubWave and watch the walls rattle. Or, if the bass becomes overbearing, maybe you actually want to cut a little bit at 40 Hz.

In our opinion, the Mo' EQ is most dramatic when it's when used in conjunction with the Bassynth. Notice how the Bassynth Resonance control becomes more dramatic with a liberal dose of the Mo' EQ Treble control. And how the Bassynth Envelope and Filter controls appreciate the presence of a boosted Mo' EQ Midrange control. As for the way the Bassynth is affected by the Mo' EQ Bass control, all we can say is stand back, be careful, and turn the knob slowly when boosting. (Your speaker cabinet will thank you in the morning.)

Note: When the Bassynth Filter and Envelope controls are "open" and the Resonance control is at the minimum position, the level of the Bassynth will be higher than the level of the original bass signal, which is normal. However, when boosting the Mo' EQ Bass control while the Bassynth is engaged and in that position, that boost will become very dramatic. Please exercise caution.

Though designed to be a post-effects EQ, there is no reason why you can't use the Mo' EQ as an additional EQ for clean sounds. In addition to being a different type of EQ (band pass vs. shelving/semi-parametric), the Mo' EQ is centered at much different frequencies (40 Hz, 1.5 kHz, 10kHz) than the preamp EQ (80 Hz, variable 200-800 Hz, 2 kHz). The effect is more subtle, but it can also be the difference between almost what you want and exactly what you want. Try combining both and see what's best for you.

CHORUS

The Mini-Mo' Preamp Chorus is a warm, analog, very traditional effect that expands or "fattens" the sound of your instrument. What most people refer to as a "chorus" is, in truth, a modulated delay.

CHORUS DEPTH CONTROL

This control determines the amount of chorus applied to the original bass signal. When set at minimum ('0'), the delay is very short, resulting in a very subtle "phasing" effect. As you turn the knob clockwise, the delay time becomes longer and causes more of a "doubling" sound, making the effect more dramatic.

CHORUS LEVEL CONTROL

This control slowly blends in the chorused signal until it reaches the maximum allowable in the circuit. When set a minimum ('0') there will be no chorus effect present. As you turn the knob clockwise, the amount of chorus will increase.

CHORUS RATE CONTROL

This control determines the speed at which the delay time is modulated. When set at minimum ('0'), the Chorus waveform grows in amplitude and will take over one whole second to complete. As you increase the knob clockwise, the rate of the Chorus effect will increase. This control also affects the rate at which the yellow LED indicator "glows."

USING THE CHORUS

To engage the effect, press the chorus switch and the yellow LED should illuminate and "glow" as mentioned above. For a simple, warm chorus, try setting the Chorus Depth control at '3' and the Chorus Rate control at '2'. To achieve more of a tremolo effect, set the Rate very high and the Depth very low. You can get a "fattening" effect without sounding like a chorus if you set the Depth at '10' and the Rate at '0'. The Chorus Level control provides flexibility throughout experimentation in terms of maintaining the true nature of the unaffected signal if so desired. For something really weird, turn both controls all the way up and look to see if the aliens have landed yet.

Using the chorus can greatly enhance the use of harmonics, allowing them to "ring out" better and longer. Clean sounds can become crystal-clear when both the Mo' EQ and the Chorus are engaged. It enhances the Overdrive and the SubWave in obvious ways. It also simulate a "third oscillator" when used in conjunction with the Bassynth and the SubWave simultaneously. As with all of the effects on the Mini-Mo' Preamp, experimentation is encouraged.

A FINAL WORD ON THE MINI-MO' PREAMP AND THE ONBOARD EFFECTS

It's easy to forget that, with all of the bells and whistles on the front panel, you can still easily achieve a great clean bass tone. You can also get just about any affected sound you want through various combinations of effects, blends and levels. But it's important to remember that one thing in the signal path can affect something after it, and that gain levels can have wide-ranging implications for effects as dynamically sensitive as the effects on the Mini-Mo' Preamp. Do yourself a favor and take the time to see what happens to your signal level when you engage and disengage effects BEFORE you get to the gig, or even the rehearsal.

DUAL MODE

Up until this point, you've operated the Mini-Mo' Preamp in what we call "Single Channel Mode." In Single Channel Mode, the "single" signal starts at the preamp and goes through all of the Mini-Mo' Preamp effects. The levels of those internal effects are determined by the position of their respective level controls (or, in the case of the SubWave, the mix control). After the Chorus section (the last

Mini-Mo' Preamp effect in the chain), the signal then is routed to the Master section. After that point, you can get audio out of the Mini-Mo' Preamp from the Main Outputs (or "post-master" outputs) in either stereo (individual outputs, left and right) or mono (a single summed mono output). In Single Channel Mode, both left and right main outputs and their respective outboard amplification sources will see the same signal. Turn on an effect and it will come out of both sides. Turn the effect off and clean bass will come out both sides.

Dual Mode changes all that. When Dual Mode is engaged, the signal splits in two after the preamp. One of the two signals—we'll call it the "clean" channel—is routed directly from the preamp straight to the LEFT set of main outputs. The other signal—we'll call it the "wet" channel—continues on through the five Mini-Mo' onboard effects and is then routed to the RIGHT set of main outputs. The Left and Right Master Volume controls then become a secondary set of blend controls when creating a sound.

Let's try and simplify this. When in Dual Mode: "Clean/left" refers to the natural sound of your bass (tech talk: AFTER having been processed by the Preamp and its EQ, but BEFORE the internal effects). "Wet/right" refers to the signal AFTER it has been processed by the Mini-Mo' Preamp INTERNAL onboard analog effects.

And yes, Dual Mode is still possible when utilizing the mono main outputs, as both the clean/left and wet/right channels will sum into the mono main outputs. At this point, the Stereo Master Volume controls become a "Mix Master" control.

Perhaps you've noticed that guitar players who are really particular about their tone often carry two amplifiers to a gig—one for clean sounds, one for dirty sounds. This is no accident. Keeping a portion of the signal unprocessed at all times has long been a priority for those players looking for consistency in tone and level when using effects. Bassists have an even greater imperative to keep it partially "clean" in certain situations—after all, we're the ones holding down the bottom for the whole band. Dual Mode allows you that option in a more pure fashion than a simple mix control can provide.

USING THE MINI-MO' PREAMP IN DUAL MODE

Let's try an experiment. First, make sure you have set the Preamp Volume control properly (please refer to the "Preamp Volume Control" section of the manual for more details). Once this is set correctly, engage the Overdrive with the Overdrive "Drive" control at '4' and the Overdrive Level control at '3'. Now engage the Bassynth with the Filter control at '2', the Resonance control at '6', the Envelope control at '3' and the Level control set to your liking. Set both Left and Right Master Volume controls at an equal position. Also make sure that the levels on your stereo power amp (or two separate power amps) are set to equal levels. Now try playing. It should sound pretty wild.

Now push the Dual Mode switch and the red LED should illuminate. Try playing again. There should be more "clean" bass present than before. Turn the Right Master Volume control all the way counter-clockwise to the minimum position. You should now hear only the original "clean" bass signal. Turn the Right Master Volume control back up, but now turn the Left Master Volume control all the way off. You should now hear only the affected "wet" signal. Finally, turn the Left Master Volume control back up to equal the Right. Now push the Dual Mode switch once more to exit the function. The red LED should turn off and affected signal should again be present on both sides of the power amp.

This function is useful in many obvious ways, but we've come across two examples we want to share with you. The first is in conjunction with the Bassynth. The Mini-Mo' Preamp Bassynth is so dynamically sensitive that you may have a hard time adjusting to the sound itself. You also may not be used to hearing the way a sawtooth wave reacts to finger/string attack (the initial attack is not as prominent), which could lead you to setting the Bassynth Level above unity gain, which you may not want on a permanent basis. Using Dual Mode is a great way to get some of that "clean" attack back in the overall sound, could help achieve a greater uniformity of tone, and may make adjusting levels a bit easier in the long run. The second example is more esoteric but still important. If you've got all of the Mini-Mo' Preamp effects on at once and you've come up with some crazy, freakish sound that might be unusable on its own, hit the Dual Mode switch and blend that freaky combination of sounds back in with the clean signal. You never know—it may work after all.

If you are using more than one speaker cabinet (and especially if they contain different speaker configurations), you may want to remember that, in Dual Mode, the Mini-Mo' Preamp will send the "wet" channel to the right main outputs while sending the "clean" channel to the left main outputs. Maybe you want the "clean/left" channel in a 2x10" and the "wet/right" channel in a single 15". Perhaps you want the "wet/right" channel sent to a cabinet with a tweeter and the "clean/left" channel sent to one without a tweeter. Maybe you want the "wet/right" channel in the top cabinet in your stack and the "clean/left" channel in the bottom cabinet. Make the best choice for your artistic needs. (The SWR Megoliath 8x10 is an ideal cabinet for running the Mini-Mo' Preamp in Dual Mode, as it has separate inputs for both bottom and top 4x10" configurations, one with a tweeter and one without. Just thought we'd mention it.)

You may notice a slight decrease in perceived volume when engaging the Dual Mode. This is mostly likely due to a Mini-Mo' Preamp effect being louder than the original bass signal. You wouldn't notice this in Single Channel Mode because that same boosted effect goes to both sides of the main outputs (or sums in the case of a mono main output). But when you engage the Dual Mode, the "left/clean" side loses that boost because it no longer contains the effect in its signal path. Therefore the overall level will seem lower. You can fix this by setting the levels of the effects in question back to unity gain with the original bass signal.

NOTE: You can use a standard volume pedal for this function, but you will need a special cable called an "insert cable." Plug the two "mono" ends into your volume pedal's in/out jacks and plug the "stereo" end into the Mini-Mo' Preamp "Filter Sweep Pedal" jack.)

INTERNAL EFFECTS ("EFX") BYPASS

You can choose to bypass all internal effects by engaging the Internal EFX Bypass switch. Push on the switch and the red LED should illuminate. Once the Bypass is engaged, none of the Mini-Mo' Preamp effects will affect the signal, regardless of whether or not they are engaged. Turning on the Internal EFX Bypass switch will not cause the LED's of other Mini-Mo' Preamp effects to switch off—it will only stop the effects from reaching the signal path.

Though there is a footswitch for the Internal EFX Bypass on the Mo' Control 2 Master Footswitch, there is also a separate, individual jack on the rear of the Mini-Mo' marked "Internal EFX Bypass." Simply plug any momentary (normally open) footswitch into this jack, and you can operate the bypass via separate footswitch. We included this in case you wanted the bypass switch in a special location, as some players are very particular about the location of certain master functions such as these.

Note: If you plug in the cable while the unit is on, the switch will activate automatically and the red bypass LED will illuminate. This is normal. Simply switch the Bypass off with either the footswitch or the push-button switch on the front panel.

The Internal EFX Bypass feature works in both Single Channel and Dual Mode. When used in Dual Mode, the Bypass will disengage the effects in the right/wet channel. It will not affect the left/clean channel because, in Dual Mode, there are no internal effects active in that channel to begin with.

EXTERNAL EFFECTS BLEND CONTROLS

Believe it or not, there are some effects not available in the Mini-Mo' Preamp, like reverb and delay. For those who want to take tweaking to the ultimate level, we've included a Stereo External Effects Loop, complete with Left and Right External Effects ("EFX") Blend controls. (To avoid confusion, we refer to this loop as "external" to separate it from the five "internal" effects on the Mini-Mo' Preamp.)

The Effects Blend circuit is similar to that used on recording consoles, with the effects loop on a "side chain" to the original bass signal (which at this point in the signal path may or may not be already processed by the Mini-Mo' Preamp internal effects). This way you can get the full sound of your instrument in addition to whatever the external effects unit sends back.

USING THE EXTERNAL EFFECTS BLEND CONTROLS

Most players only use one external effect device, so let's start there. In the simplest configuration, the Mini-Mo' Preamp is run in "Single Channel Mode" ("Dual Mode" disengaged). Your input signal—your bass guitar—is a mono signal. But most effects units are "stereo" in the sense that they accept two independent inputs and send out two independent outputs. So what's the best way to hook it up?

In order to have external effects returning to both sides of the main outputs (and, therefore, both sides of your desired power amp), connect the Mini-Mo' Preamp RIGHT Effect Send jack (located on the rear of the unit) to the external device's input. (Please refer to your device's manual to determine the correct input.) Then use BOTH (left and right) returns on the effect unit and route them to the Left and Right Effects Return jacks on the Mini-Mo' Preamp. You can send both the Left and Right Effects Send signals to your external effect device if you wish, but it's not necessary unless:

- a) Your external effects device requires stereo inputs to function properly
- b) You plan on using different external effects for each channel in Dual Mode (see below)

Now that your external effects unit is connected to the Mini-Mo' Preamp, try setting both the Left and Right External Effects Blend controls to '5' on the dial. You should hear a decent blend of external effects with your Mini-Mo' Preamp signal. With the External Effects Blend controls fully counter-clockwise ("dry"), no signal from your effect will be heard. As you turn these controls clockwise, more of the effect can be heard in the overall sound. When the Blend controls are fully clockwise ("wet"), no true or unaffected signal is heard other than what your effects unit provides. If you find that you can't get enough of the external effects in the signal no matter how high you set the External Effects Blend controls, try adjusting the levels up on the external effects unit.

USING DUAL MODE WITH AN EXTERNAL EFFECTS UNIT

Please remember that when "Dual Mode" is engaged, the "clean" channel is always on the LEFT side, and the "wet" channel is always on the RIGHT.

The key function of Dual Mode is to allow the user separation between "clean" and "wet" sounds. But it also allows for different external signal processing on each channel. In other words, it is possible to utilize two different external effect devices independently. Simply route the left effect send to one device and return it to the Left Effects Return jack. Then repeat the process for the right side using a different device. This allows you to process the "clean/left" signal with one effect and the "wet/right" signal with a different effect.

Many so-called "stereo" external effects devices sum their inputs to a mono signal and then convert the mono signal into stereo at their outputs. The Mini-Mo' Preamp External Effects Loop is a TRUE stereo loop. To achieve true stereo effect send and return, be aware that your external effects device must process signals in TRUE stereo. Otherwise, your left and right effects returns will process both "clean/left" and "wet/right" signals from the Mini-Mo' Preamp and the two channels' effects will bleed into each other.

DEFEAT MAIN OUTS SWITCH

This switch, when engaged, defeats the post-master ("main") audio outputs only. The corresponding LED illuminated in red when the function is engaged. This switch is unique in that there is no corresponding footswitch on the Mo' Control 2. It's just another muting option, and can allow for convenient comparisons between the sound coming out of your rig to the sound in the house (or at the mixing board).

STEREO MASTER VOLUME CONTROLS

The Stereo Master Volume controls adjust the individual volumes of the main outputs. For both controls, fully counter-clockwise ('0') is minimum, while fully clockwise is maximum. As mentioned previously in the "Getting Started" section of the manual, both controls are active at all times. Whether you're in Single Channel Mode or Dual Mode, or using the left/right main outputs to a stereo power amp or the mono main output to a mono power amp, both controls are always independently active.

This is your last chance in the signal path to adjust levels. In addition to setting the overall output level of the entire unit, you can use the Stereo Master Volume controls to:

- a) Balance two speaker cabinets of different impedance when running in stereo
- b) Balance the clean/left and wet/right channels when in Dual Mode, regardless of how you are running the power amps
- c) Balance master levels when using two different external effects units in the external loop

For most applications, however, you can set the Left and Right Master Volume controls at equal levels and adjust to taste for overall volume. We recommend leaving them set fairly high and using your power amp volume controls as master volumes for your system, unless the power amp's input is clipping early, in which case you should back off the Mini-Mo' master volume controls until the situation is alleviated.

STEREO HEADPHONES JACK

By inserting a set of stereo headphones into this jack, you can satisfy your urge to play through the Mini-Mo' Preamp at all hours of the night without disturbing your neighbors—or even hooking up a power amp and speaker cabinets. The headphone volume level is adjusted by the Stereo Master Volume controls.

We suggest you begin with the Master Volume controls fully off (counter-clockwise). Then slowly bring the volumes up to your desired level. If you hear some distortion in your headphones that is not present with the speakers on, turn down the Master Volume controls. You're probably exceeding the capability of your headphones and could ruin them. Be especially carefully when engaging effects that boost level, like Overdrive. The recommended impedance for your headphones is 32 ohms, but results can differ, as the efficiency ratings of the drivers contained in headphones vary greatly.

Here's a hint: try running the Mini-Mo' Preamp in Dual Mode with some effects engaged while using a nice set of stereo phones. We like it.

MINI-MO' PREAMP - REAR PANEL FEATURES

THE INTERFACE PANEL

We call the right-most section of the Mini-Mo' Preamp back panel the "Interface Panel" because between the unbalanced and balanced output jacks and various switches available, you can "interface" with just about any outboard gear you desire. Mixing boards in a live venue or recording studio, additional power amps or signal processing—the options for what kind of signal you can send to where are practically limitless.

As opposed to the main outputs (which are controlled by the Master Volume controls, i.e. the term "post-master"), the audio outputs in the Interface section are all pre-master outputs. The Master Volume controls will not affect their levels. You will notice that the signal levels of these outputs are generally equal to the main outputs when the Master Volume controls are set to maximum (fully clockwise). That is because, in reality, the Master Volume controls are really pads, or attenuators, of the audio signal. They actually reduce the true signal level from '10' as opposed to boosting it from '0'. In the case of the pre-master outputs present in the Interface section, all of the audio outputs are unattenuated—except in the case of the XLR outputs, where you have the opportunity to pad the levels by either -10db or -20db by using the slide switches beneath their respective jacks.

Here's a rundown of what you get from the various outputs and features, and how the front and back panel controls and switches affect them while running the unit in its simplest form: in Single Channel Mode ("Dual Mode" switched off) and with nothing in the external effects loops.

PRE-MASTER 1/4" OUTS

TUNER OUT

This is a direct signal straight off the input buffer, before the first gain stage, pre-everything. No controls will affect it, not even the "Preamp Volume." This feature is totally isolated from the rest of the preamp, therefore avoiding the "loading down" of the instrument which could cause a loss in dynamic range. To use this feature, plug in a shielded patch cord from the Tuner Out to the INPUT on your tuner.

As mentioned previously in the "Tuning Mute Switch" section, when the Tuning Mute is engaged, the Tuner Out will be the only audio output to remain active. Silent, onstage, mid-gig tuning is now a patch cable and a footswitch away.

DIRECT OUT

With the "Line/Direct" switch in the "Direct" position, your signal sees the first tube stage and the limiter. Only the "Preamp Volume" and "Limiter/Leveler" controls will affect the signal. With the "Line/Direct" switch in the "Line" position, the Direct Out jack sees everything, including the Preamp EQ at all times and Mini-Mo' Preamp effects when engaged.

NOTE: On the original Mo' Bass, we used the terminology "**Mo' Bass Out**" to describe an audio output that was post-preamp, post-EQ, and post-internal-effects—basically post-everything aside from Master Volume. We decided to keep it that way, for heritage's sake.

MO' BASS OUT

This signal sees "Preamp EQ" at all times and onboard effects when engaged.

PRE-MASTER BALANCED (XLR) OUTS

DIRECT OUT

This output differs slightly from the unbalanced "Direct Out." With the "Line/Direct" switch in the "Direct" position, your signal sees the first tube stage and the limiter, and only the "Preamp Volume" and "Limiter/Leveler" controls will affect the signal. With the "Line/Direct" switch in the "Line" position, the signal will see the entire "Preamp" section, including the EQ. Mini-Mo' Preamp effects are never present at this output. The 3-position pad switch (-10dB, 0, -20dB) directly underneath the jack will pad the signal as indicated.

MO' BASS OUT

Like the unbalanced Mo' Bass Out, this signal always sees everything, including the Preamp EQ at all times and onboard effects when engaged. The 3-position pad switch (-10dB, 0, -20dB) directly underneath the jack will pad the signal as indicated.

GROUND/LIFT SWITCH

The "Ground/Lift" switch affects the XLR jacks only, and affects both at once. Most often the "Ground" position is correct. With the switch in the "Ground" position, the ground to pin 1 is engaged. In case of excessive ground noise (most likely caused by a non-standard wiring of an XLR connection at a mixing console), use the "Lift" position. Moving the switch to the "Lift" position will interrupt or defeat the ground on pin 1. Pin out for the XLR jacks on the Mini-Mo' Preamp are as follows:

Pin 1 = ground

Pin 2 = positive

Pin 3 = negative

If a persistent hum exists after trying both positions of the ground lift, there is probably:

1. a bad cable or connection somewhere between your Balanced Output jack and the snake leading to the mixing console
2. a dirty or miswired A/C socket
3. miswired or poorly wired A/C in the building
4. fluorescent lighting directly above you or in close proximity (especially when using single-coil pick ups)
5. a cell phone in your right pocket that's interacting with the electronics in your bass (don't laugh, this actually happens!)

But, in the case of a true ground loop, this switch can often times solve the problem.

3-POSITION PAD SWITCHES

As mentioned above, each XLR jack has its own independent switch for padding the signal if necessary. The center position is 0 dB, the left position is -10dB and the right position is -20dB. Front-of-house engineers and mixing consoles usually like to see -10dB, but some will take up to -20dB and others can take unity gain (0 dB). Make the choice that best suits your needs.

HOW DUAL MODE AFFECTS THE INTERFACE PANEL

The Interface section allows a player the ability to send the same type of signal(s) to an external source (mixing board, extra power amp, etc.) as to his own speaker cabinets. Since "Dual Mode" splits the signal into a "clean" and "wet" channel, we've taken extra steps to ensure the widest variety of routing two or more signals. So, with that in mind, here's how engaging "Dual Mode" affects the various functions:

Unbalanced Pre-Master Outs In Dual Mode

TUNER OUT

Totally unaffected.

DIRECT OUT

With the "Line/Direct" switch in the "Direct" position, it is unaffected. With the "Line/Direct" switch in the "Line" position, the signal sees the entire "Preamp" section, including the EQ, but NO ONBOARD EFFECTS. In short, the "Dual Mode" switch changes the function of this jack when the "Line/Direct" switch is set in the "Line" position.

MO' BASS OUT

Totally unaffected. It sees everything, just as before. So, if you want to run in "Dual Mode" and get the "clean" preamp sound on one output and the "wet" onboard effects on the other, simply set the "Line/Direct" switch to "Line", and use the "Direct Out" for the clean side and the "Mini-Mo' Preamp Out" for the wet side.

Unbalanced Pre-Master Outs

TUNER OUT

External effects are never present.

DIRECT OUT

With the "Line/Direct" switch in the "Direct" position, no external effects are present. With the "Line/Direct" switch in the "Line" position signal from only the LEFT EFX return will be present.

MO' BASS OUT

Signal from only the RIGHT EFX return is present at this output.

Balanced Pre-Master Outs

DIRECT OUT

External effects are never present. This is another difference between the balanced (XLR) "Direct Out" jack and the unbalanced (1/4") "Direct Out" jack.

MO' BASS OUT

Signal from only the RIGHT EFX return is present at this output.

SENDING STEREO EXTERNALLY PROCESSED SIGNALS

When "Dual Mode" is engaged and you have routed both left and right effect sends and returns to an external effects device, a processed signal is present at both the "clean/left" and the "wet/right" sides of the Mini-Mo' Preamp. To send a true stereo externally processed output from the Mini-Mo' Preamp Interface Panel, use the 1/4" Unbalanced or XLR Balanced "Mini-Mo' Preamp" Output for the "wet/right" send. Use only the 1/4" Unbalanced Direct Out with the "Line/Direct" switch in the "Line" position for the "clean/left" send, as the XLR Balanced Direct Out will NEVER send an externally processed signal. This output is dedicated to sending an unprocessed signal.

A FINAL WORD ON THE MINI-MO' PREAMP INTERFACE SECTION

This isn't as complicated as it sounds. Most of the head-spinning text listed above was to define some esoteric patching possibilities and how they might affect the signal present at certain outputs on the Interface Panel. Most often it will be simple—one or two XLR outputs to a mixing board, and maybe a tuner out. But the information is here if you need it, and remember—there's no substitute for experimentation and learning by trying all of the possibilities yourself. Before you get to the gig, call your friend with the mini-studio in his or her bedroom, bring the Mini-Mo' Preamp over, and find out for yourself what the Mini-Mo' Preamp Interface section is capable of. But bring the manual with you, just in case.

STEREO EFFECTS (EFX) LOOP

As noted in the External Effects Blend controls section of the manual, the Mini-Mo' Preamp is equipped with a TRUE STEREO External Effects Loop. You can now use an external effects unit to affect the channel(s) of your choosing (clean/left or wet/right in Dual Mode; either or both in Single Channel Mode). Please refer to the External Effects Blend controls section of the manual for basic connection instructions and operation with the front panel Blend controls. The information in this section is meant to supplement that previous section.

USING THE STEREO EXTERNAL EFFECTS LOOP

The Preamp Volume control acts as the closest thing to an overall effects send level control. The amount of signal present at the Left and Right Effects Send jacks is governed by the Preamp Volume and various internal effects settings on the front panel. The signal essentially goes through the entire front panel and heads for the Effects Send jacks just after the Chorus section. Then the signal returns just before the Master section and is blended in to your taste (using the External Effects Blend controls). The Stereo Master Volume controls will NOT affect the level of your Left and Right Effect Sends. However, the Stereo Master Volume controls may be used to recover losses in gain caused by some effects units.

If your effects unit is overloading and it does not provide for compensating incoming signals—such as an input volume, or switches marked +4 dB or -20 dB—you may want to turn down the Preamp Volume control to avoid the overloading. If your effects unit has input level adjustments, they should be set for either 0 dB or +4 dB.

And, of course, always use high quality shielded patch cables for all connections between the amplifier and your effects units. Also, it is recommended that they be as short as possible.

A quick reminder: No sound from your external effects device will be heard if the External Effects Blend controls are in the full counter-clockwise ("dry") position! This is normal.

WHAT HAPPENS WHEN DUAL MODE IS ENGAGED?

Good question. What kind of signal is present at the Left and Right Effects Send jacks when Dual Mode is engaged?

The Left Effects Send jack will now see the "clean/left" channel, which is the entire Preamp section and its EQ, but NO ONBOARD Mini-Mo' PREAMP EFFECTS. In short, the "Dual Mode" switch changes the function of this jack.

The Right Effects Send jack will see the "wet/right" channel, which essentially means that it will not change—it always sees everything, including the Preamp EQ at all times and Mini-Mo' Preamp effects when engaged.

INTERNAL EFFECTS (EFX) BYPASS JACK

This is the input jack to use if you wish to connect any momentary (normally open) footswitch so as to operate the Internal Effects Bypass control separately from the Mo' Control 2 Master Footswitch. The function can be used to bypass any onboard Mini-Mo' Preamp effect currently engaged. Please refer to the previously mentioned Internal Effects Bypass section of the manual for more details.

FILTER SWEEP PEDAL JACK

This is the input jack for controlling the Bassynth Filter control by means of an "Expression Pedal." Please refer to the previously mentioned "Using The Bassynth - Filter Sweep Pedal" section of the manual for more details.

MO' CONTROL 2 FOOTSWITCH INPUT JACK (MARKED "FOOT SWITCH") & MIDI OUT JACK

This standard HD15 jack connects the Mo' Control 2 Master Footswitch to the Mini-Mo' Preamp. This footswitch allows the user to perform hands-free control of the various effects, as well as store groups of effects in four preset banks. Please refer to the section marked Mo' Control 2 Master Footswitch later on in this manual.

MIDI OUT JACK

This jack, in conjunction with the Mo' Control 2 Master Footswitch, allows you to send simple MIDI commands to a MIDI-capable external effects device. Please refer to the section marked "How Mo' Control 2 Can Act As A MIDI Controller" later on in this manual.

MAIN OUTPUT JACKS (POST-MASTER)

These six 1/4" jacks serve as the post-master audio outputs for your Mini-Mo' Preamp. They are the designated outputs for connection to the power amp being used to drive the speakers for your rig onstage, while the pre-master outputs can be used simultaneously to send audio to a front-of-house mixing board or external effects device. They also can be used as outputs in the studio if you wish to retain control of the master output level by way of using the Master Volume controls on the front of the Mini-Mo' Preamp. Each of the two left, right and mono main outputs are wired in parallel, so it doesn't matter which output (1 or 2) of each you use. Use high-quality patch cable to connect your audio at all times, and try to keep the patch cable length at a minimum so as to reduce noise and potential signal loss.

While there are myriad "correct" ways to connect the main outputs of your Mini-Mo' Preamp to different kinds of power amps, here are the two most basic guidelines:

With a stereo power amp - use left and right main outputs

With a mono power amp - use mono main output

LINE (MAINS) FUSE

The size and rating of the Line Fuse is 3AG, 1/2 amp, slo-blo. It serves to protect your amplifier's power supply and transformer from large voltage spikes caused by an external source, and also serves to protect the transformer in the unlikely event of a power supply failure. NEVER replace this with a fuse of a higher rating as it will void your warranty.

A/C CORD RECEPTACLE

This receptacle accepts a standard A/C power cable (supplied with the Mini-Mo' Preamp), the same kind used with almost all current musical, professional and household electronic devices. If it does become misplaced, replacement will be easy at almost any appliance store, supermarket or the like. Make sure the AC cord is plugged firmly into both the amplifier and the wall socket. If your cord ever becomes frayed or split, don't fool around—replace it immediately.

INTERNAL FEATURE - VACUUM TUBE (VALVE)

SWR installs a specially selected 12AX7 dual triode on the motherboard of every Mini-Mo' Preamp. If this tube needs replacing, we recommend that you replace it with a similar high quality product. This tube will need replacing only if it becomes noisy or microphonic (sounds like glass tinkling in the background of certain notes), or completely fails (causing no signal or signal at very low levels). As mentioned in the "Preamp Controls" section of the manual, it should last one to three years, depending on usage.

RACK MOUNTING INSTRUCTIONS

To preserve the beauty and reliability of your amplifier, we recommend that you install your amplifier in a rack case. The Mini-Mo' Preamp is completely ready to be rack mounted and needs no additional parts or accessories other than the rack screws and the case itself.

The Mini-Mo' Preamp takes up three full rack spaces (5.38"). If the rack that you mount the Mini-Mo' Preamp in requires that the rubber feet on the bottom of the chassis be removed, please remember to keep the screws handy in case you wish to reattach the rubber feet at a later date.

Please do not forget about your amp after it has been installed in a rack case. Continuous transportation and vibration can cause screws to become loose, both on the Mini-Mo' Preamp and with your rack case rails. We recommend that at least once a month you remove the Mini-Mo' Preamp from the case and tighten all outside screws (especially the rear mounted screws holding on the handles connected to the front panel) and wipe off the outside of the chassis with a damp cloth. Then check all the connections in your rack case and reinstall the unit.

THE MO' CONTROL 2 PROGRAMMABLE MASTER FOOTSWITCH

OVERVIEW

The SWR Mo' Control 2 Programmable Master Footswitch is custom-made for use with the SWR

Mini-Mo' Preamp. With a touch of your foot, you now have individual control over all five effects—Overdrive, SubWave, Bassynth, Mo' EQ and Chorus—plus Bypass and Mute. You can activate the Dual Mode function (a clean/dirty channel splitter) from the floor as well.

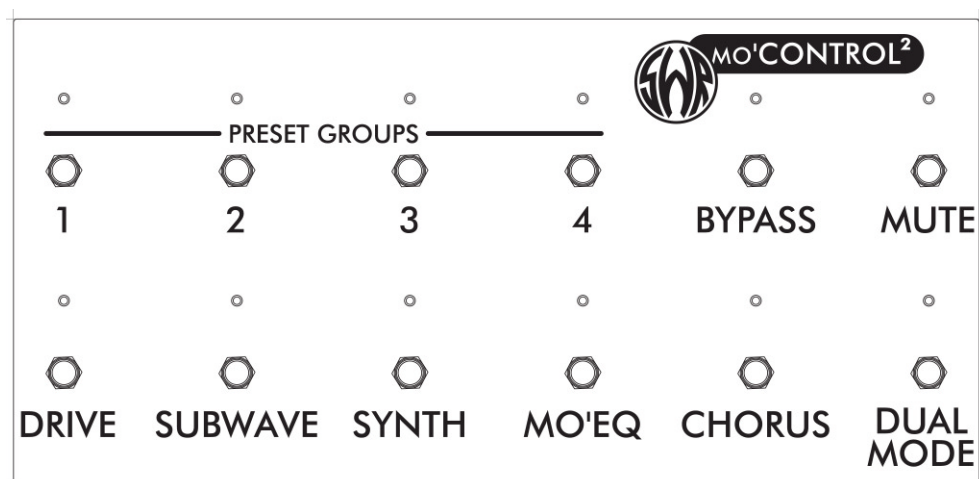
Most importantly, the Mo' Control 2 provides the capability to store four unique combinations of Mini-Mo' effects by using the programmable Preset Group switches. You can also send simple MIDI commands from the Mo' Control 2/Mini-Mo' Preamp to an external MIDI-capable effects device—which means you can link your Preset Groups to correlating external effects such as reverb or delay. (The MIDI function is a MIDI Output only—there is no MIDI Input on the Mini-Mo' Preamp. Remember, the system is essentially analog.)

MO' CONTROL 2 - TOP PANEL FEATURES

Top Row (left to right)

- Preset Group 1 switch
- Preset Group 2 switch
- Preset Group 3 switch
- Preset Group 4 switch
- Bypass Switch
- Mute Switch

(all top row switches have red LED indicators)



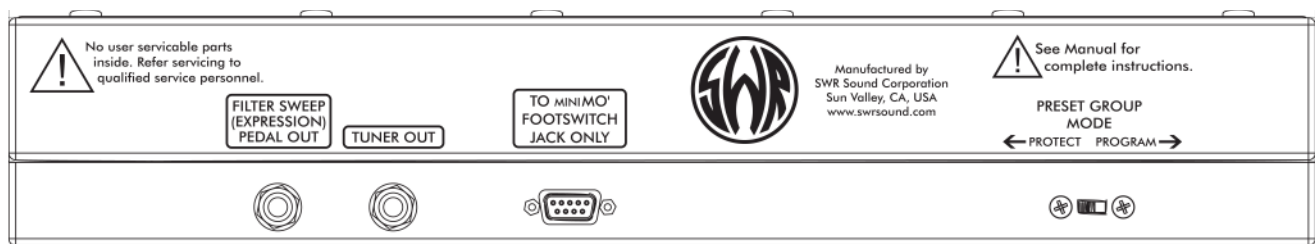
Bottom Row (left to right)

- Overdrive switch (with red LED)
- SubWave switch (with blue LED)

- Bassynth switch (with amber LED)
- Mo' EQ switch (with green LED)
- Chorus switch (with yellow LED)
- Dual Mode switch (with red LED)

MO' CONTROL 2 - REAR PANEL FEATURES (left to right)

- Filter Sweep (Expression) Pedal Out Jack
- Tuner Out Jack
- Main Footswitch Out (HD15) Jack
- Preset Group Mode Switch



CONNECTING THE MO' CONTROL 2 TO THE MINI-MO' PREAMP

As mentioned in the "Mini-Mo' Preamp - Getting Started" section of this manual, it's best to turn your Mini-Mo' Preamp power off before connecting your Mo' Control 2 Footswitch to it. Why? The Mo' Control 2 is powered by the Mini-Mo' (you'll notice the lack of an AC receptacle on the Mo' Control 2). Also, Mini-Mo' and Mo' Control 2 are "twins" when the units are connected—one controls the other, and vice versa. The effects even have the same color LED's. So if you connect the Mini-Mo' to the Mo' Control 2 while the Mini-Mo' is on, most likely all of the individual effects will turn on and the LED's on both units will illuminate. No harm will come to either unit, but if your settings on the Mini-Mo' are boosted—like, say, the Overdrive—and the system is connected to live power amps and speaker cabinets, you may hear a noise you weren't expecting.

Now that your Mini-Mo' is off, locate the HD15 cable (the one that looks like a computer monitor cable) and connect it from the "Foot Switch" HD15 jack on the rear of the Mini-Mo' to the similar HD15 jack on the rear of the Mo' Control 2. This jack has a text box above it that reads "To Mini-Mo' Footswitch Jack Only."

That's it. Now you're fully connected, and you can switch on the Mini-Mo' in accordance with the rest of the instructions in the "Mini-Mo' Preamp - Getting Started" section of this manual.

We can hear you thinking: "What happens if I lose this cables?" The cable is a standard "monitor extension cable" and is easily replaceable at most computer supply stores. Your Mo' Control 2 comes with a 25-foot versions of this cable in black, and you can always contact the factory for replacement if you wish.

Finally, on the rear of the Mo' Control 2, locate the switch to the far right marked "Preset Group Mode" and set the switch to "Program" (to the right). Now we're ready to play.

OPERATING THE MO' CONTROL 2

INDIVIDUAL EFFECTS

We need to establish a term for when the Mo' Control 2 is in its most basic state, which is when no Preset Groups are activated. Let's call it Solo Mode, since that's the opposite of a group (and Alone Mode just sounds wrong). When in Solo Mode, operation is simple. Step on any one of the switches for the individual effects, and three things will happen: a) The effect will activate on the Mini-Mo' Preamp; b) The LED will illuminate on the Mo' Control 2; and c) The LED will illuminate on the Mini-Mo' Preamp.

To disengage any activated effect, simply step on the switch again and it will shut off. Individual switches will not affect other individual switches. You can turn the effects on and off one at a time, or manually turn on several effects at once. Notice that whatever you do on the Mo' Control 2, the Mini-Mo' LED's will reflect it. The reverse is also true. If you engage an effect manually by using the switch on the Mini-Mo' itself, the corresponding Mo' Control 2 LED will illuminate. In essence, the two units are joined at the hip.

"Dual Mode" is a mode of operation on the Mini-Mo', and acts as an individual effect on the Mo' Control 2. If you activate the Dual Mode switch on the Mo' Control 2, the Mini-Mo' will split its signal into "clean" and "dirty" channels and route those split signals to different sides of the power amp. (For more information, please consult the "Dual Mode" section of this manual.) Again, think of Dual Mode as just another individual effect as we further discuss operation of the Mo' Control 2.

BYPASS

The "Bypass" switch on the Mo' Control 2 will defeat all active Mini-Mo' effects AT ANY TIME. When Bypass is engaged, the red LED above the switch on Mo' Control 2 will illuminate, and the red LED on the Mini-Mo' marked "Internal EFX Bypass" will illuminate as well. To disengage the Bypass, simply step on the switch again. The red LED will turn off, and whatever effects you still have on will become audible.

You'll notice that the LED's for any activated effect will remain lit even after you activate the Bypass function. This way you can set up whatever you want your next effect (or combination of effects) to be while you have a clean, unaffected bass tone. Then you can disengage the Bypass and be ready to kick in the right sound for the next section of the tune.

MUTE

When engaged, this switch will activate the Tuning Mute function on the Mini-Mo' Preamp. The Tuning Mute LED will illuminate on both the Mo' Control 2 and the Mini-Mo', and every audio output but one on the Mini-Mo' will be muted, leaving only the Tuner Out signal present. This allows for silent tuning without signal being sent anywhere else. In addition to the Tuner Out jack on the rear of the Mini-Mo (for rack mounted tuners), there is a Tuner Out jack located on the rear of the Mo' Control 2 (for pedalboard tuners), so short patching is never an issue when using a pedalboard. Both Tuner Outs remain live when the Tuning Mute is engaged.

USING THE PRESET GROUP FUNCTION

The Mini-Mo' was designed so that groups of effects could be used in a musical fashion, which isn't always the case when taking a bunch of effect pedals and connecting them all together in front of your amplifier. With the Mo' Control 2, you have the capability to program four unique groups of Mini-Mo' effects by using the Preset Group switches. Up until now we've been in Solo Mode—that is, with none of the group switches activated. As an example, let's program Preset Group 1.

First, turn off all of the individual effects. Now step on the switch marked "Preset Group 1." The red LED above the number 1 should illuminate, but no individual effects should turn on. That's because Group 1 is empty; we haven't put anything in there yet. Now activate the Overdrive, the Mo' EQ and the Chorus. To program this group of effects into Preset Group 1, step once more on the "1" switch, but this time hold your foot down on the switch. After about one second, you should see the red LED blink. You can now remove your foot from the "1" switch, because you've just programmed the group. It's that simple.

To check and make sure your programming was stored, step on the "1" switch again, this time in normal fashion. The red LED above "1" should turn off, as should the Overdrive, Mo' EQ and Chorus. You've just returned to Solo Mode, which when you left it, had no effects on at all. Now step on the "1" switch again. You're back in Group Mode, and the Overdrive, Mo' EQ and Chorus should all turn back on. Congratulations! Now you can program the other three groups however you wish. (We recommend re-reading the entire "Front Panel Features" section in your Mini-Mo' Owner's Manual for some advice on gain stages, how levels affect other levels, and how effects affect other effects when using combinations of sounds.)

Will Bypass and Mute still work when in Group Mode? You bet. Bypass will deactivate any engaged effects no matter what mode you're in. Mute will keep audio from reaching every output but the Tuner Out regardless of whether you're using groups or not. All LED's will still remain lit as well, including the Preset Group LED's. You can even program the Preset Groups while the Bypass is engaged.

You can also add and subtract effects from your preset without changing the preset. For instance: if, while you're in a Preset Group, you turn on an extra effect that's not part of the group, you'll hear the change, but it won't program automatically. You have to hold the Preset Group switch down in order for it to program.

To prove this, activate Preset Group 1. Overdrive, Mo' EQ and Chorus should all be engaged. Hit a bunch of individual switches, whatever you want. Then step on the "1" switch again, deactivating the Preset Group. Now hit the "1" switch once more. Overdrive, Mo' EQ and Chorus will still be there, just like you programmed it.

PROTECTING YOUR PRESET GROUPS

Even though it takes holding a Group Switch down for nearly a full second to program, we've included a feature that eliminates the possibility of accidental re-programming and locks in your stored settings. After you've programmed your four Preset Groups, locate the "Preset Group Mode" switch on the far right of the rear of the Mo' Control 2. Slide the switch to the "Protect" setting (to the left). Now activate Preset Group 1. Your stored effects should all engage. Now step on the "1" switch again—the Mo' Control 2 will deactivate Group 1 immediately and return you to Solo Mode, even if you hold your foot down on the switch indefinitely. The last thing you need in a live setting is an accidental re-programming of a Preset Group. When the Preset Group Mode switch is set to "Protect," this becomes impossible.

note: When you want to change the effects in your Preset Groups, remember to put this switch back to the "Program" position!

Going from Solo to Group Mode... and From One Group to Another... and Back Again...

You can switch back and forth between Solo Mode and Group Mode 'til your heart's content. Just know that Mo' Control 2 has a good memory. If you decide to activate a Preset Group, it will remember the last thing you did in Solo Mode. So when you deactivate that Preset Group, it will return to whatever state Solo Mode was in at that time.

Try this:

1. In Solo Mode, turn on the SubWave.
2. Turn on Preset Group 1. For the sake of this example, let's say Preset Group 1 is Overdrive, Mo' EQ and Chorus.
3. Now hit the Preset Group 1 switch again, turning it off. The Overdrive, Mo' EQ and Chorus should turn off, but the SubWave should turn on.

If the last thing you did in Solo Mode was to have all effects disengaged, it will return to that state. But if something was on, it will be on again when you leave Group Mode.

What if you're in Preset Group 1 and you hit the "Preset Group 2" switch? The Mo' Control 2 will simply go from one group to the other. As long as you keep switching between groups, you'll remain in Group Mode. But if you hit any Preset Group switch twice in a row, you'll return to Solo Mode—and whatever you did last in that mode will be what you see and hear.

USING THE MO' CONTROL 2 AS A MIDI CONTROLLER

You can control both the Mini-Mo' Preamp and your external MIDI-capable device by using the Preset Group and Bypass switches on the Mo' Control 2. When connected to the Mini-Mo', the Mo' Control 2 sends simple MIDI program change commands through the MIDI Out Jack on the rear of the Mini-Mo'. (Again, the MIDI function on the Mo' Control 2/Mini-Mo' system is for output only.) Your control range will be six groups, and starting from 00 for the sake of this example, they correspond as shown in the following chart:

<u>Mo' Control 2</u>	<u>MIDI Device</u>
Solo Mode =	Group 00
Preset Group 1 =	Group 01
Preset Group 2 =	Group 02
Preset Group 3 =	Group 03
Preset Group 4 =	Group 04
Bypass =	Group 05

Connection is as simple as patching a MIDI cable from the MIDI Out of the Mini-Mo' to the MIDI In on your external effects device, and then patching that device's audio in and out of the Mini Mo Preamp's external effects loop. For information on programming your MIDI device's presets to correlate to the Mo' Control 2 in your desired manner, please consult the MIDI device's owner's manual, or contact the manufacturer for more detailed information.

MODE DIAGRAMS

Following the FAQ section (Pages F1 and F2) are several pages of mode diagrams (MD1 through MD6). These diagrams are provided to give the Mini-Mo' Preamp user a visual guide to proper connection procedures. Beginning with simple connections (MD1) and gradually becoming more complex (MD6), these diagrams outline the various connection possibilities available from the Mini-Mo' Preamp.

SUGGESTED SETTINGS

Following the Mode Diagram section (Pages MD1 through MD6) are several pages of Suggested Settings. These are meant to be used as a starting point only, as we realize that every user will get something completely different out of the Mini-Mo' Preamp due to the dynamic sensitivity of the entire unit, especially when combining effects. But, just so you know what kind of sounds we've been hearing around the factory from various players, we offer these possibilities to try for yourself.

We performed these tests using a standard Jazz bass with the Preamp Volume set at '5' (except where otherwise noted). Of course, you can try any of these sounds in either Single Channel or Dual Mode, and you can set the Master Volumes as loud as you want (just so long as your speaker cabinets and your neighbors can handle it). Have fun!

MINI-MO' PREAMP/MO' CONTROL 2 - FREQUENTLY ASKED QUESTIONS

Q: WITH ALL THIS TALK OF CLEAN AND WET SOUNDS, DO I NEED A STEREO POWER AMP AND TWO SPEAKER CABINETS TO RUN THE MINI-MO' PROPERLY?

A: No! You can use either of the mono main outputs for a good, solid, single output source to a single power amp and speaker cabinet.

Q: I can't seem to get a good balance between clean and wet sounds. What's wrong?

A: If you're using the Overdrive, try adjusting the Overdrive Level. If you're using the Synth with the resonance above '6', try boosting the Bassynth Level. You can always engage "Dual Mode" and use the Master Volume controls to mix clean and dirty levels as well.

Q: Why are there two EQ sections on the Mini-Mo' Preamp?

A: The Preamp EQ is the classic SWR EQ, designed for equalizing your clean bass signal. The Mo' EQ is designed as a post-effects EQ. In general, it's better to EQ an effect than apply effects to a heavily equalized signal. You can use both EQ's at the same time if you wish.

Q: What's the difference between Single Channel Mode and Dual Mode? Is it the same as Stereo Mode and Bridged Mono Mode that I see on many power amps?

A: Single Channel and Dual Mode refer to different modes of operation (Dual Mode splits clean and dirty signals to left and right outputs respectively; Single Channel Mode does not) for the Mini-Mo' Preamp, while Stereo Mode and Bridged/Mono mode refer to different modes of operation for an external power amp.

Q: So can you run Single Channel Mode on the Mini-Mo' and Stereo Mode on my power amp at the same time? Or Dual Mode on the Mini-Mo' and "Bridged/Mono" mode on my power amp at the same time?

A: Yes in both cases! When running a single audio source to your stereo power amp, you can use any two of the main outputs (left, right, mono). Or, if your stereo power amp has a "Y Input" feature, simply run one audio outputs to the input of your power amp marked specifically for that function. Just remember that, if you wish to achieve the full effect of the Dual Mode function on the Mini-Mo' by using two speaker cabs (one for each split signal), you need to use one each of the left and right main outputs to individual left and right inputs on your power amp to get there. Be sure to refer to the owner's manual of your power amp for proper connection procedures.

Q: I want to get heavy distortion with the Overdrive and use the SubWave at the same time, but I can't get any Overdrive signal at all. What's wrong?

A: Make sure the Mix control on the SubWave isn't set all the way clockwise—if so, you've blended out all of the Overdrive signal.

Q: All of these 1/4" and XLR outputs in the Interface section are confusing me. Which output should I use if I just want to send one signal with everything in it to a mixing board?

A: Use the XLR Mo' Bass Out. (See diagram MD1).

Q: I'm running in Dual Mode and have my clean signal going to one side of a stereo power amp and its respective speaker cabinet, and my wet signal going to the other side of a stereo power amp and its respective speaker cabinet. How can I send the exact same thing to a mixing board?

A: For the wet signal, send a line from the XLR Mo' Bass Out. For the clean signal, send a line from the either Direct Out, and put the Line/Direct switch in the Line position. (See diagram MD3).

Q: When I run in Dual Mode I seem to lose a little overall level. Why?

A: The effects you're using may be boosting the overall signal level (which you can test by hitting the Internal Effects Bypass switch). If so, when you engage Dual Mode, you're taking one channel of the unit and dropping its signal back down to the unaffected level. If you can achieve balance between your clean and wet sounds before using Dual Mode, you should hear no difference when running in Dual Mode.

Q: How come the MIDI Out isn't working?

A: The MIDI Out will only engage when the "Mo' Control 2" footswitch is in use, and a MIDI capable external effects device is connected at both the MIDI Out (for MIDI control) and the stereo external effects loop (for audio signal routing).

Q: Why do both Master Volume controls work when I'm using the mono main output to send audio to my power amp?

A: Because the "left" and "right" channels go through a "summing" amp just before the Master section. This occurs regardless of whether or not you are using the Dual Mode function.

Q: I want to slap with the Bassynth on, but it sounds like something is clipping or being overloaded no matter what I do. What's up?

A: The Bassynth on the Mini-Mo' Preamp is really designed for fingerstyle playing more so than for slapping. That's because the circuit is a sawtooth wave generator, the same kind used on classic Moog-type synthesizers, and a flatter input signal makes for a more smooth effect through the filter. Slapping creates a large peak in the waveform, which tends to overload the front end of the filter.

Q: Why does the Bassynth Resonance control affect the volume so much?

A: Because when you increase the Resonance control, you're actually narrowing the band of frequencies that are allowed to pass through the Filter. When you take away frequencies from your signal, it is no longer "full range"—and there is a perception of volume loss from those missing frequencies. You'll notice that when the Resonance is at minimum, the Bassynth level may actually be louder than when the effect is disengaged. This is normal. For all cases, simply use the Bassynth Level control to adjust for the desired levels between when the Bassynth effect is engaged and when it is not.

Q: Will the "Mo' Control 2" footswitch be able to memorize settings on the Mini-Mo' Preamp?

A: It will memorize groups of effects, but not actual settings because the Mini-Mo' Preamp is not a digital device—it's analog. When a preset group of effects engages, the settings for each control will be wherever the knobs are set at the time.

Q: So how can I store preset levels?

A: By using the MIDI Out function, you can send Presets 1-4 and a bypass to work with the first five presets on your MIDI device, and then you can program the levels on your MIDI device.

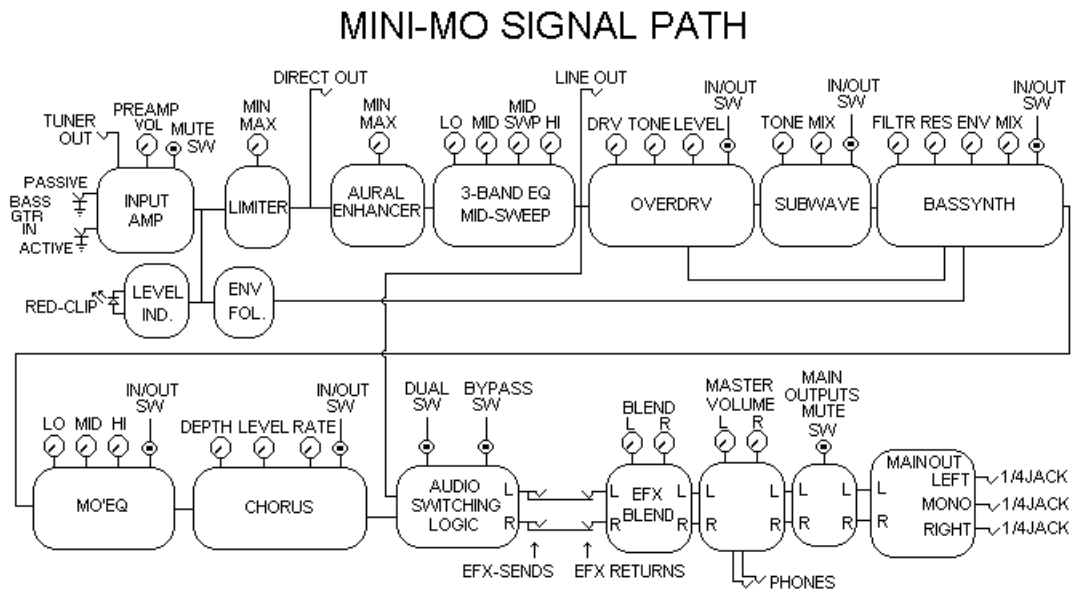
Q: Why can't I program any Preset Groups? I'm holding the switch down, but all it does is turn the group off.

A: Set the Preset Group Mode switch on the Mo' Control 2's rear panel to "Program."

Q: I'd like to make the Mo' Control 2 a part of my custom pedalboard, but the rubber feet are keeping me from being able to velcro the bottom down to the pedalboard itself. I don't see any screws holding the feet in, and they're difficult to get out. What's up?

A: We wanted to keep the Mo' Control 2 as low to the ground as possible and still provide a rubber non-skid surface that didn't just "stick on" on the Mo' Control 2. The rubber feet have four expanding "claws" on their back sides and hold in place extremely well. If you can't remove the rubber feet from the outside, unscrew the bottom panel. Then you can push the claws through the holes from the backside. If you ever want to re-attach the feet, just push the claws back through the six holes on the bottom panel.

MINI-MO' PREAMP - SIGNAL PATH DIAGRAM



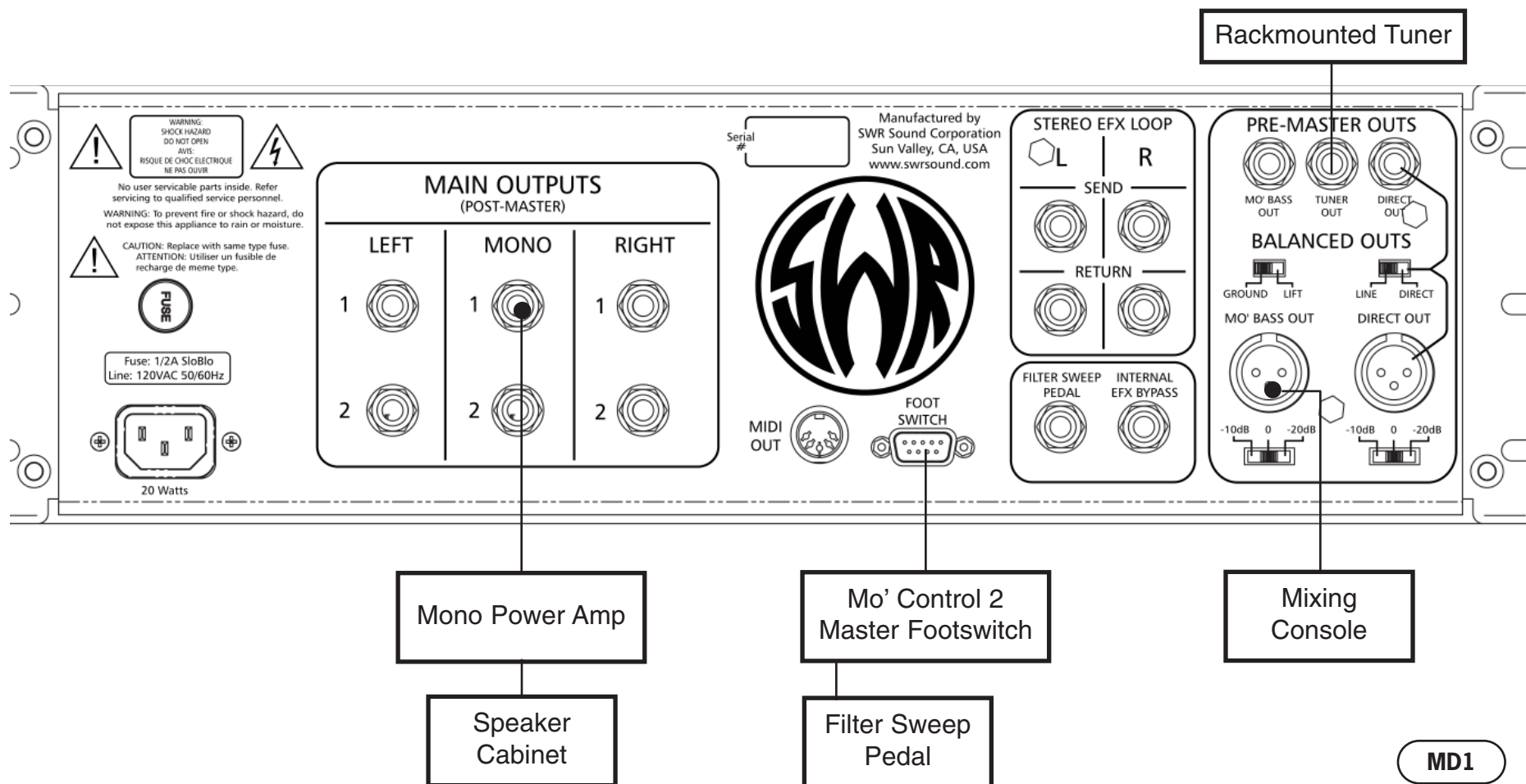
MODE DIAGRAM 1

MINI-MO' PREAMP: Single Channel Mode

POWER AMP: Mono

SPEAKER CABINETS: One

SIGNALS TO CONSOLE: One



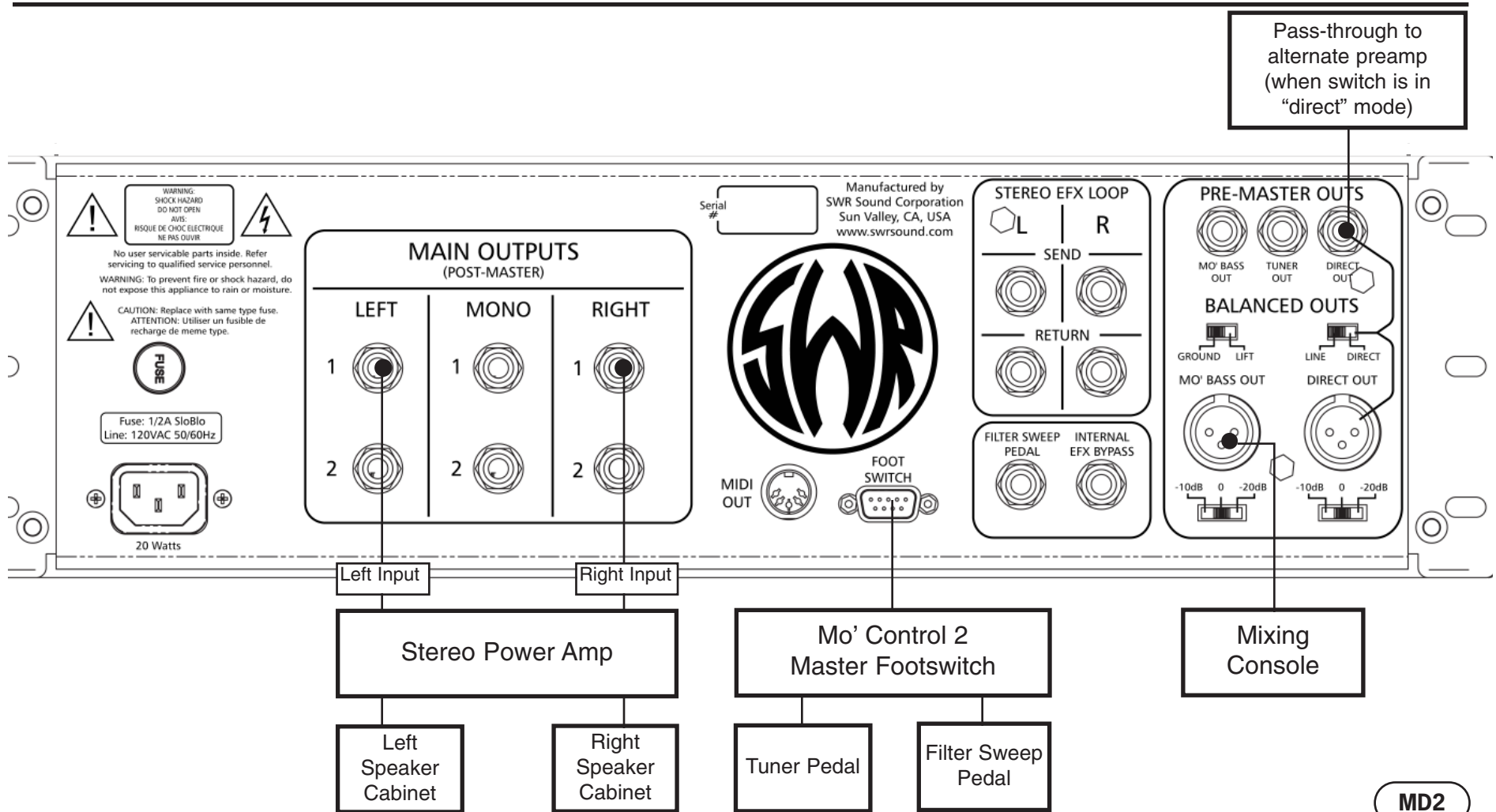
MODE DIAGRAM 2

MINI-MO' PREAMP: Single Channel Mode

POWER AMP: Stereo

SPEAKER CABINETS: Two

SIGNALS TO CONSOLE: One



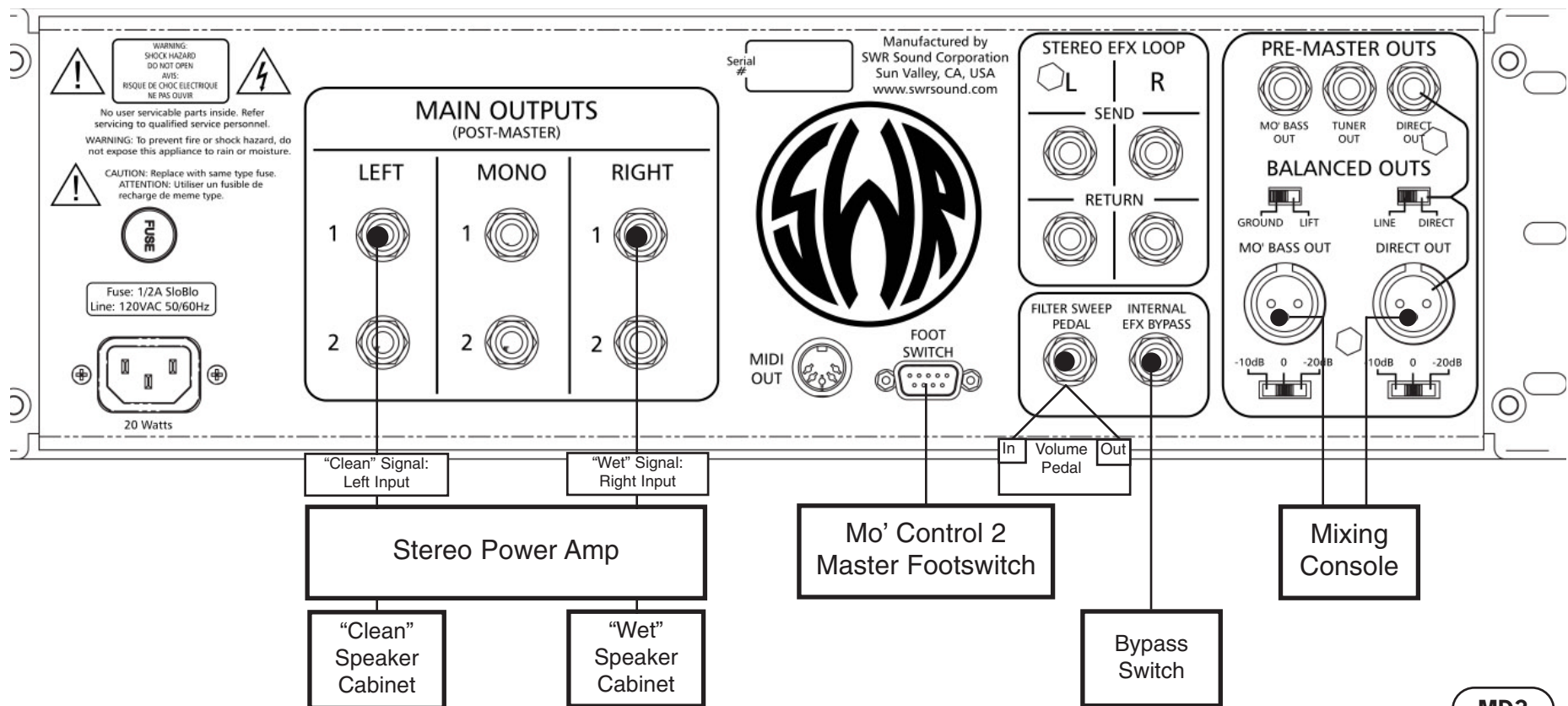
MODE DIAGRAM 3

MINI-MO' PREAMP: Dual Mode

POWER AMP: Stereo

SPEAKER CABINETS: Two

SIGNALS TO CONSOLE: Two (One always clean with preamp EQ. One wet when effects engaged)



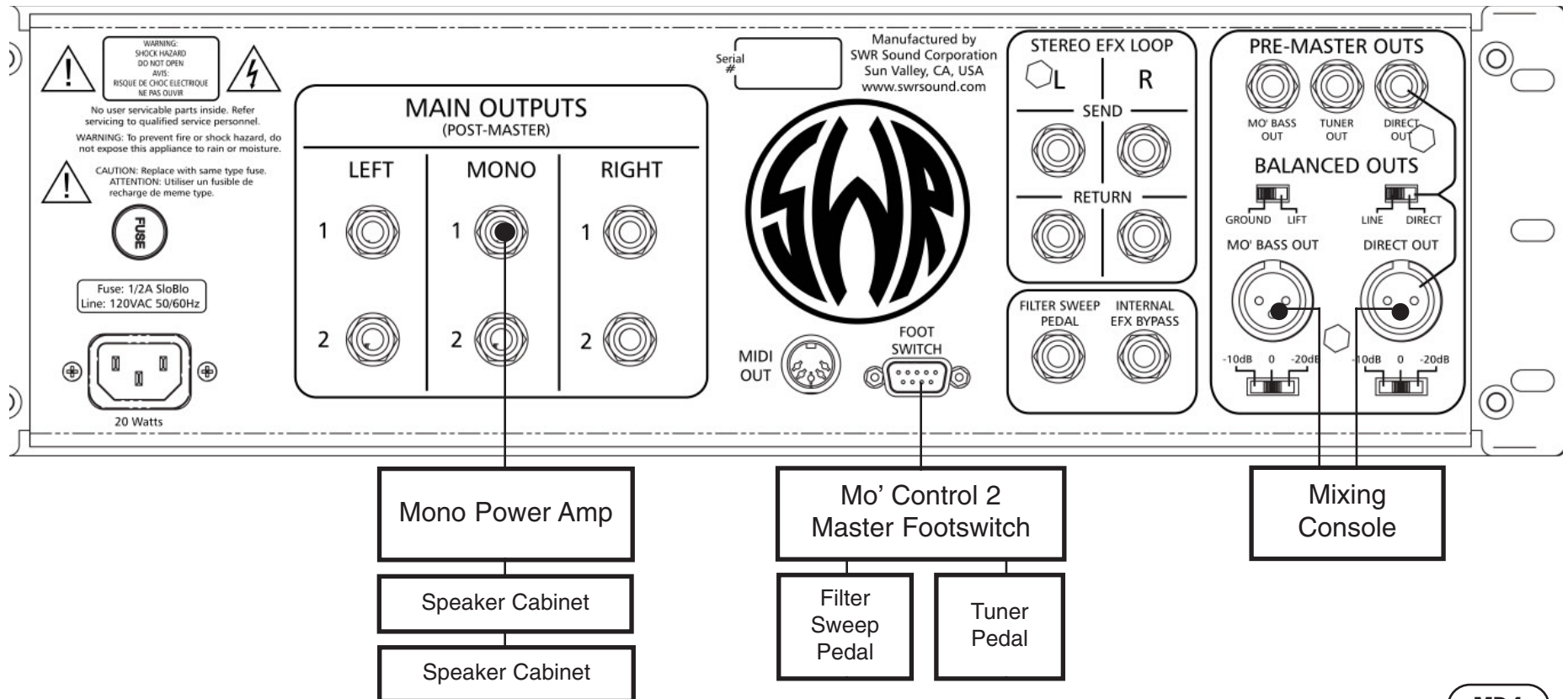
MODE DIAGRAM 4

MINI-MO' PREAMP: Dual Mode

POWER AMP: Mono

SPEAKER CABINETS: One or Two

SIGNALS TO CONSOLE: Two (One always clean with preamp EQ. One wet when effects engaged)



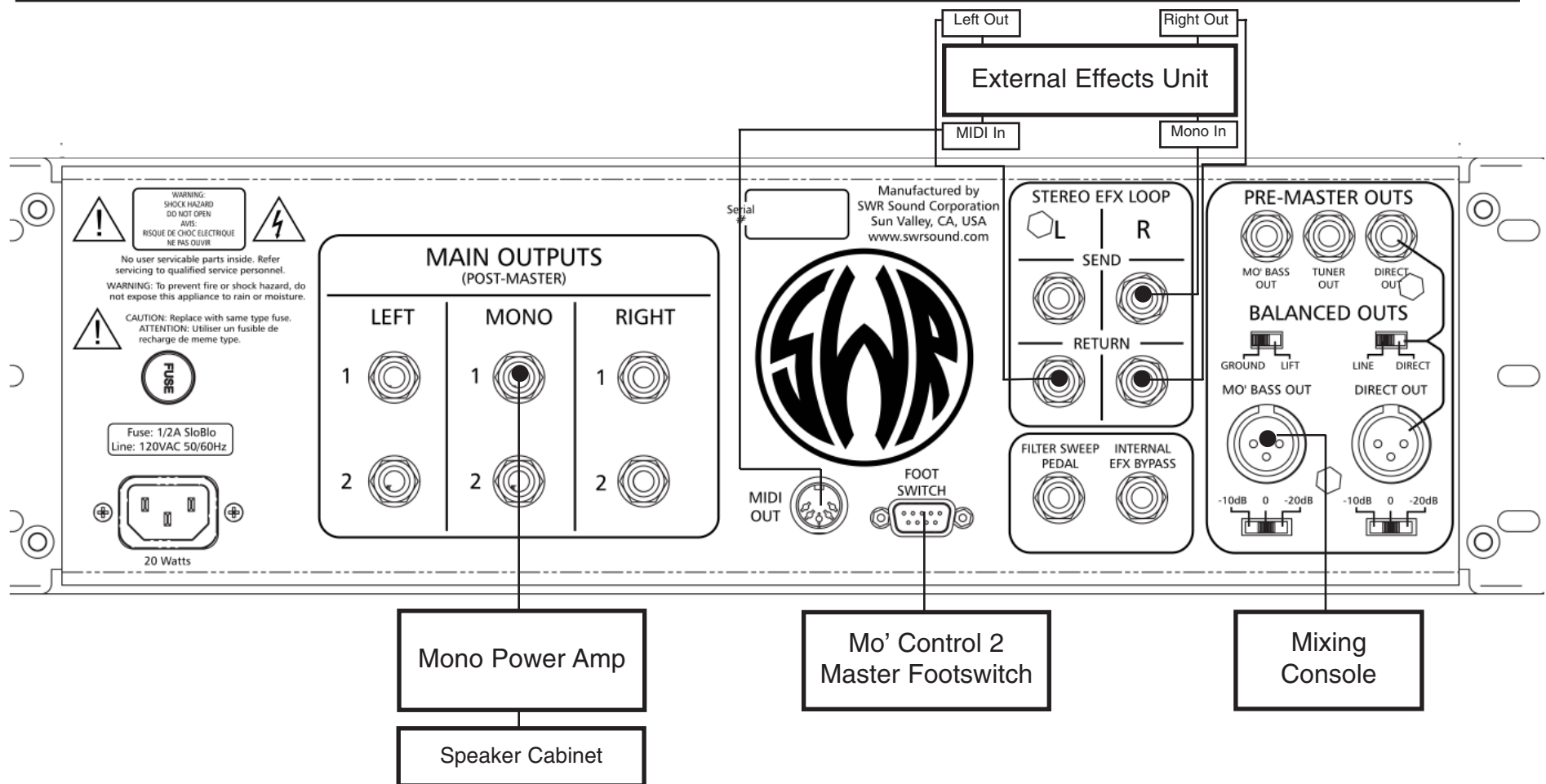
MODE DIAGRAM 5

MINI-MO' PREAMP: Single Channel Mode

POWER AMP: Mono

SPEAKER CABINETS: One

SIGNALS TO CONSOLE: One (with external effects unit)



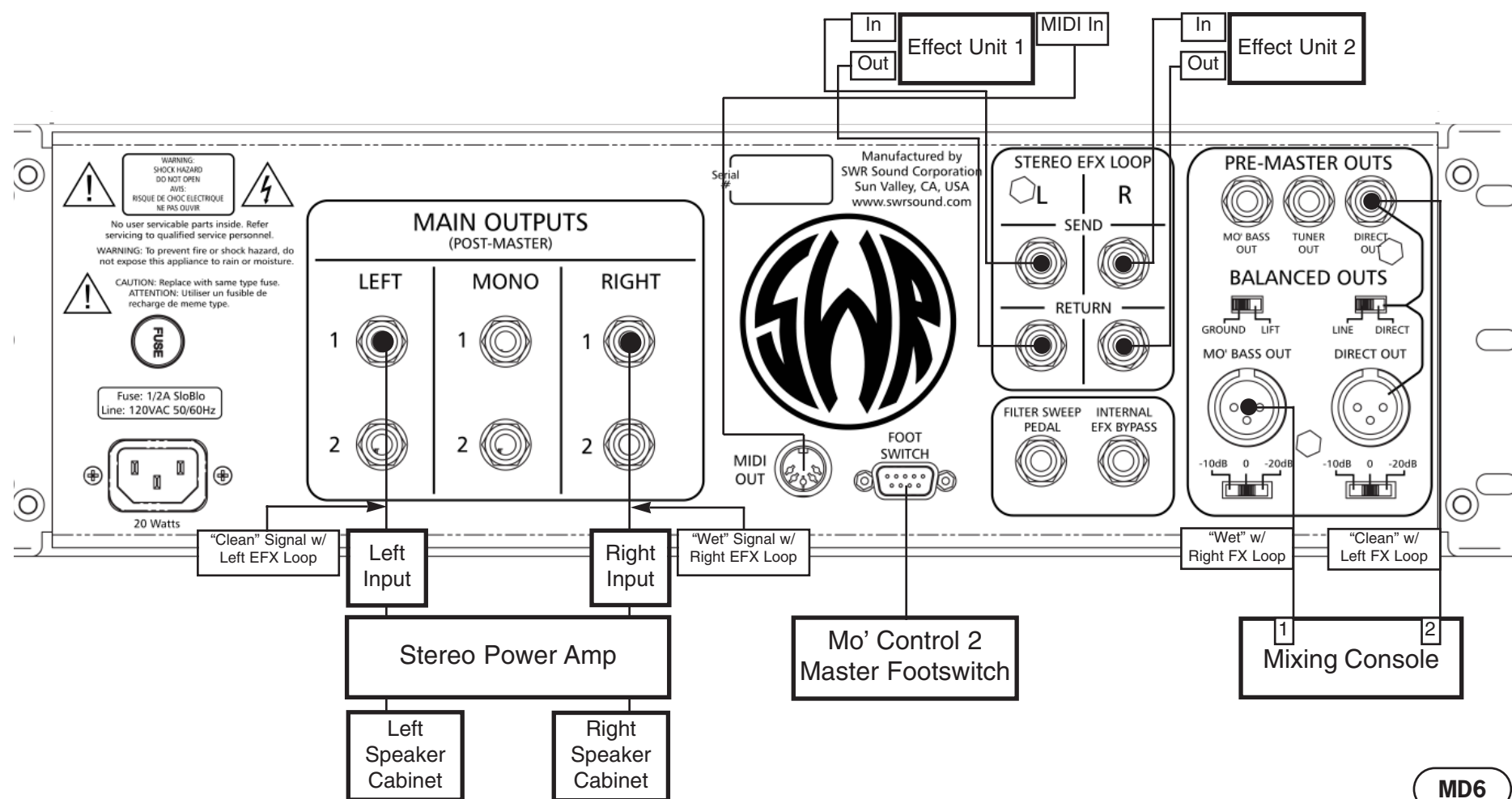
MODE DIAGRAM 6

MINI-MO' PREAMP: Dual Mode

POWER AMP: Stereo

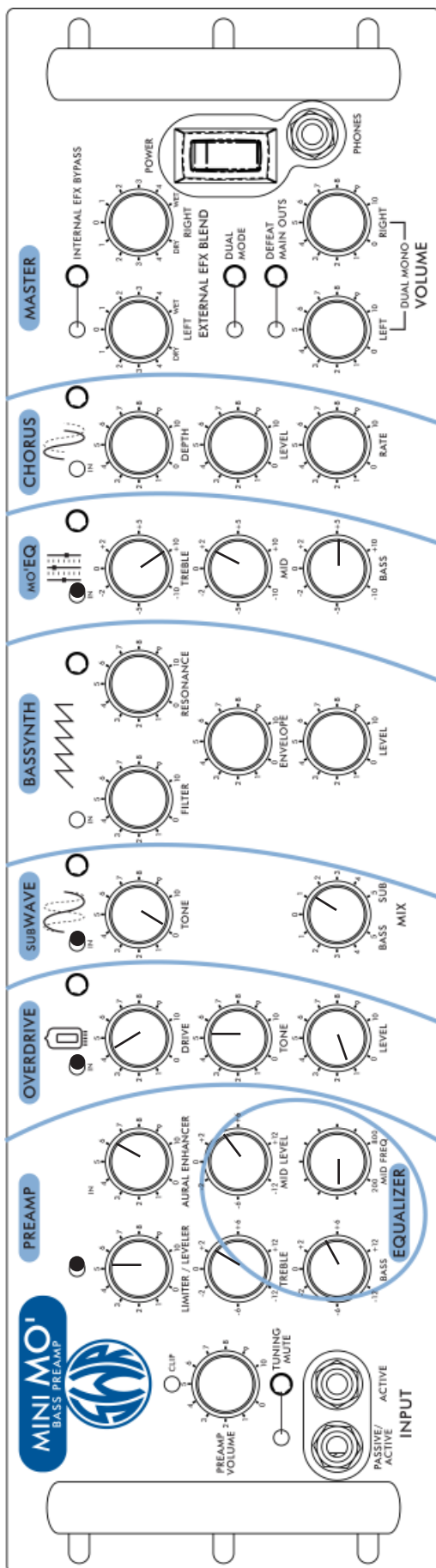
SPEAKER CABINETS: Two

SIGNALS TO CONSOLE: Two (with external effects unit)

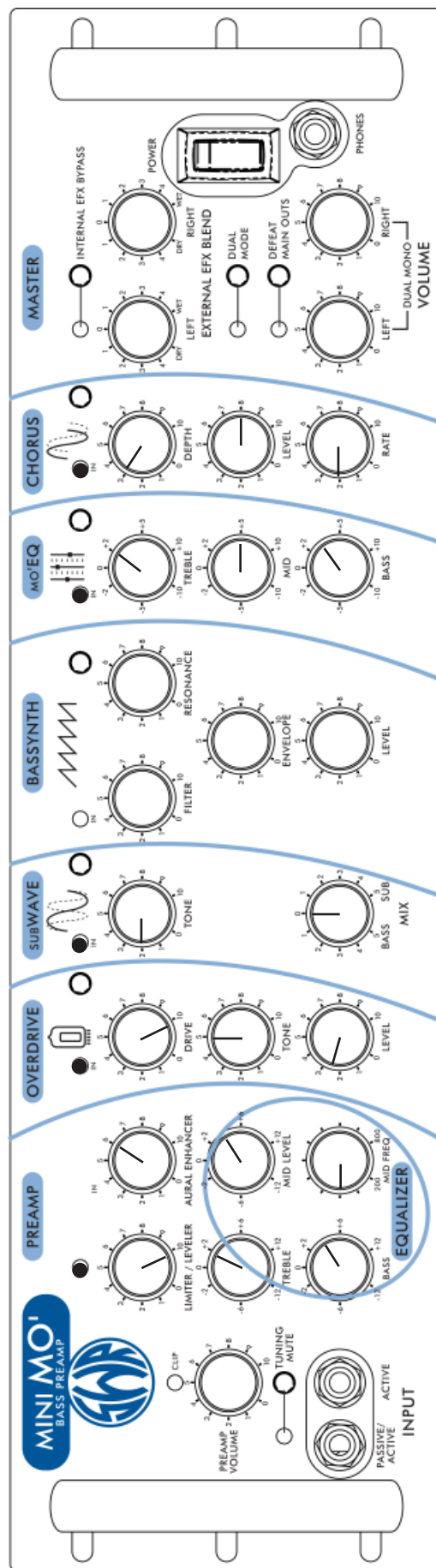


MD6

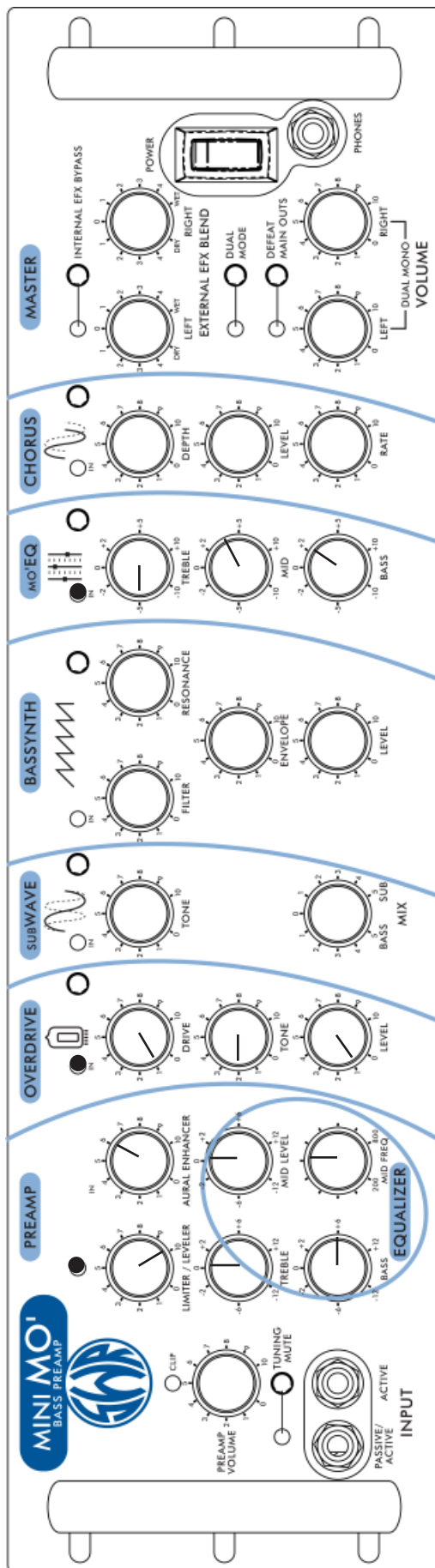
THE DINOSAUR



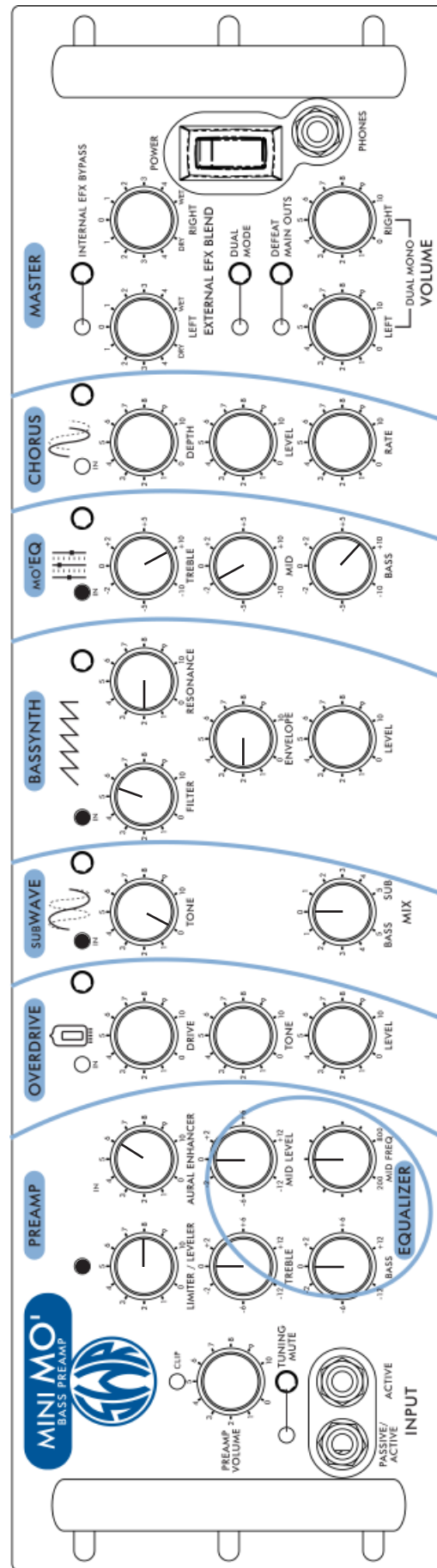
THE DINOSAUR II



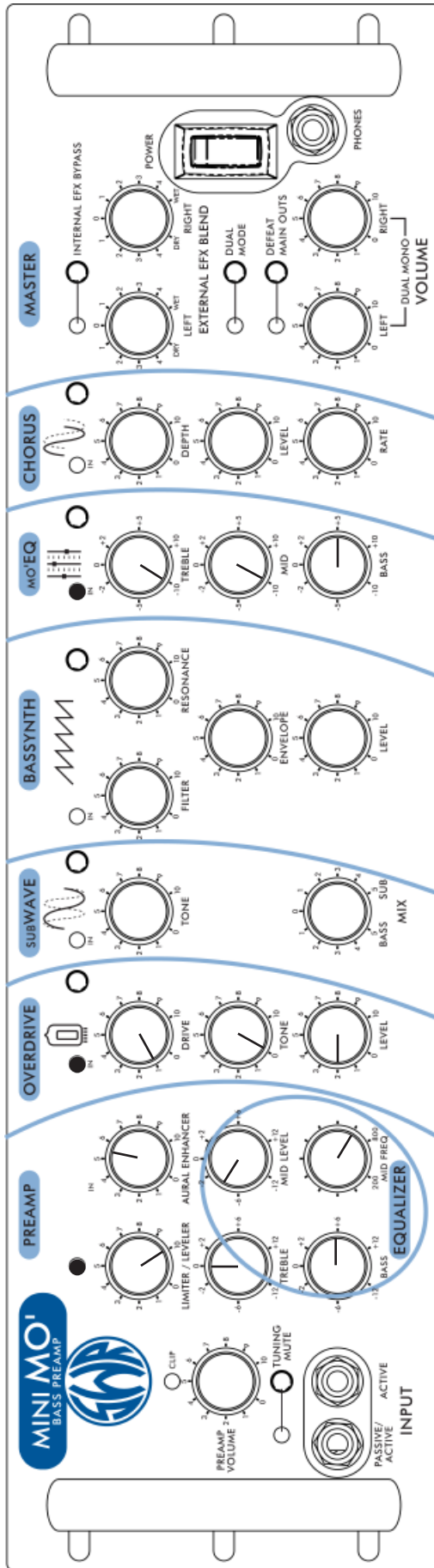
MELLOW DRIVE



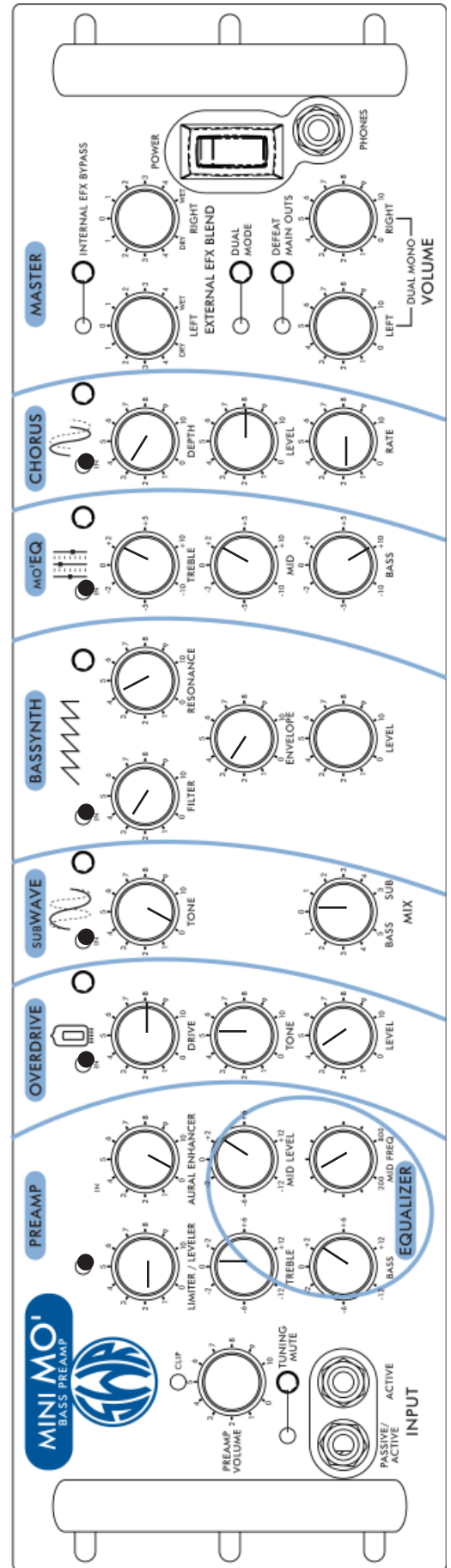
BOMB DROPPER



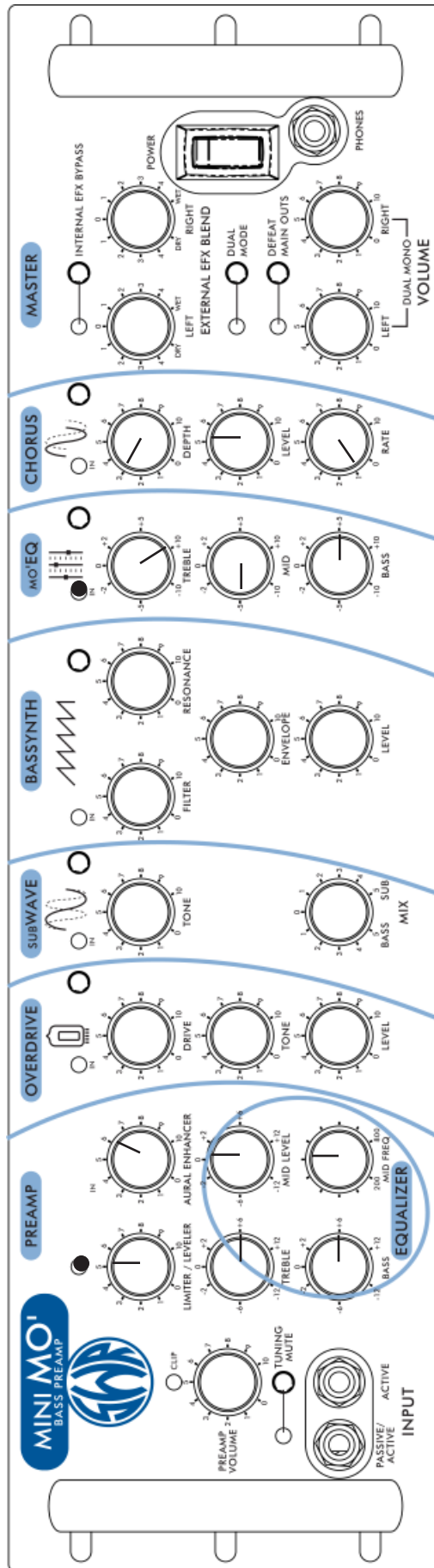
COME TOGETHER



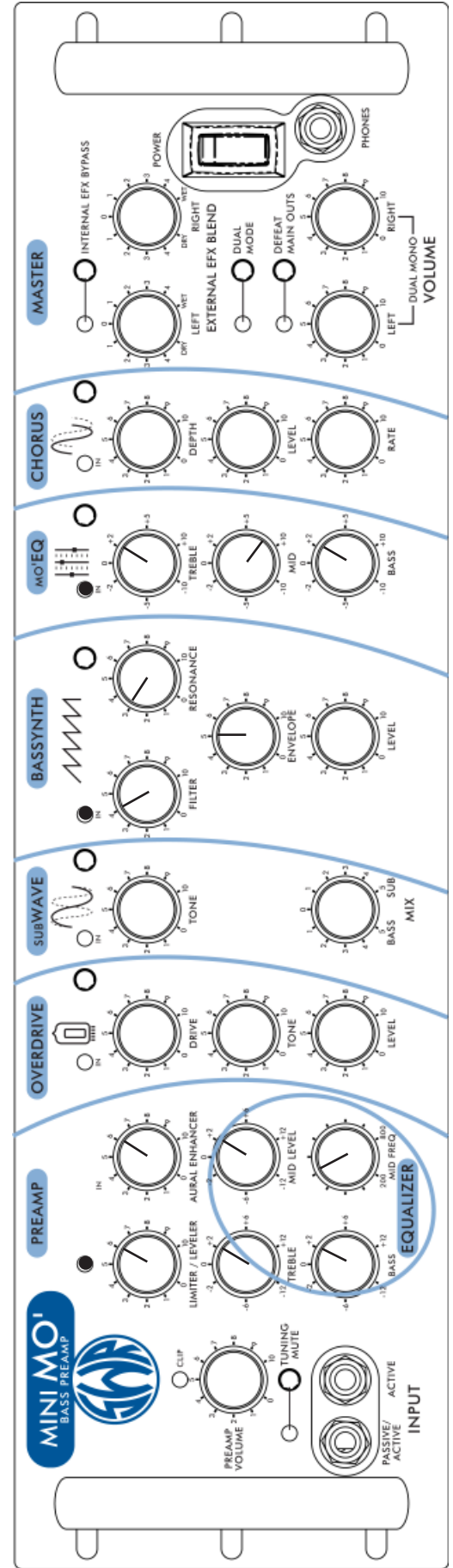
ALL SYSTEMS GO!



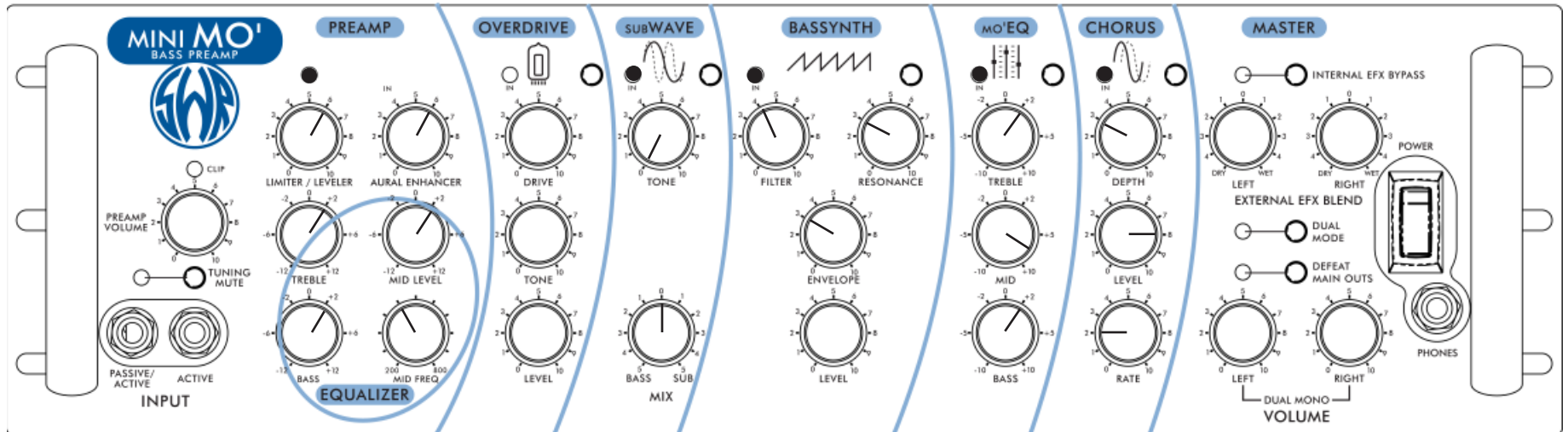
SWEET SLAP



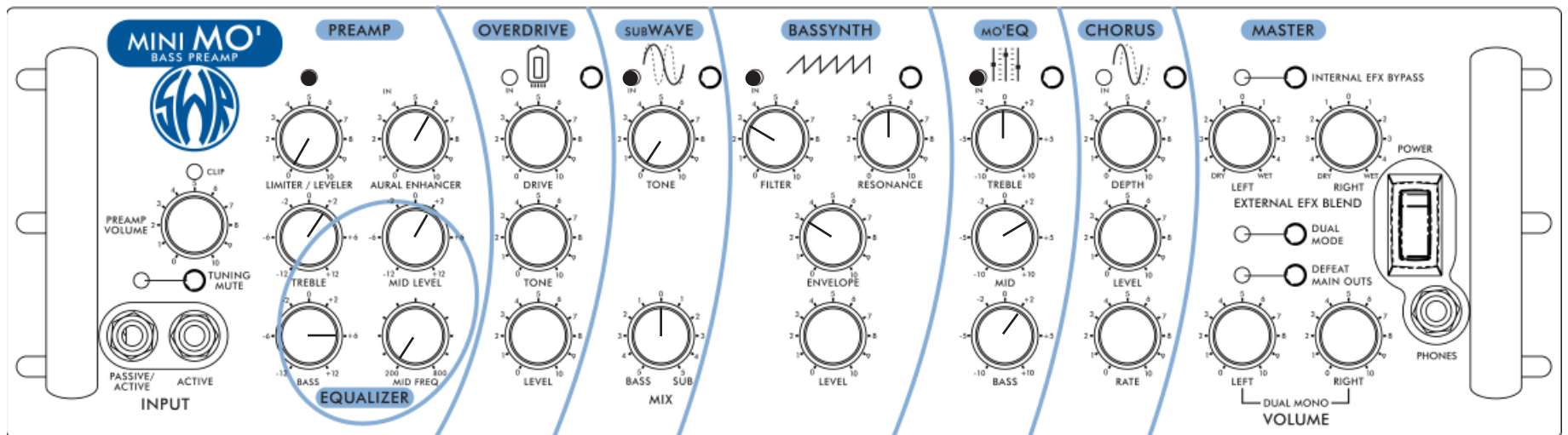
WEATHER FORECAST 1



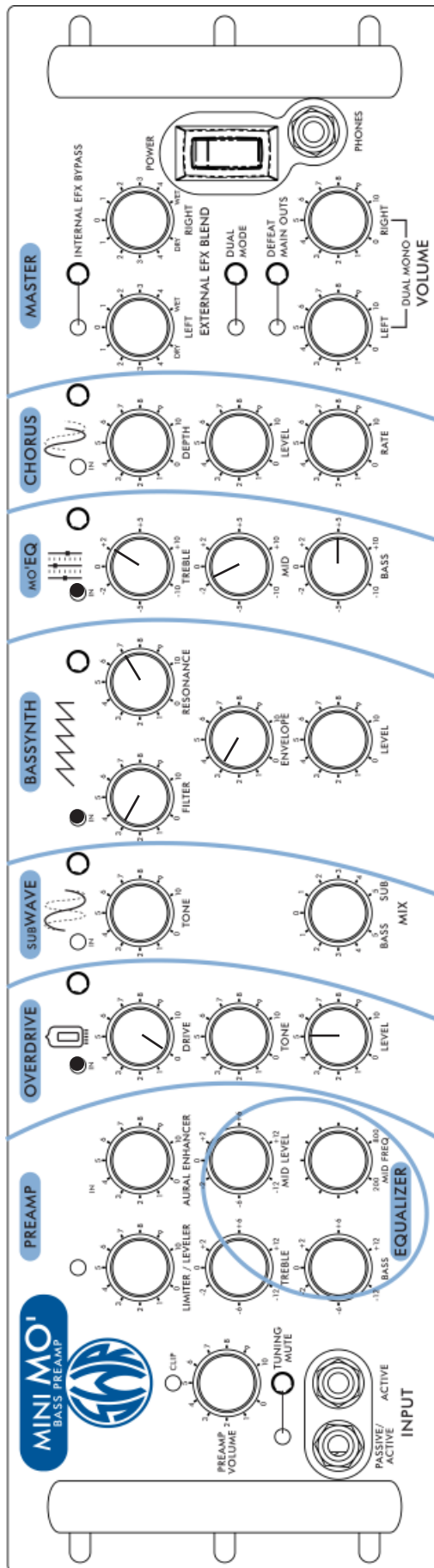
WEATHER FORECAST 2



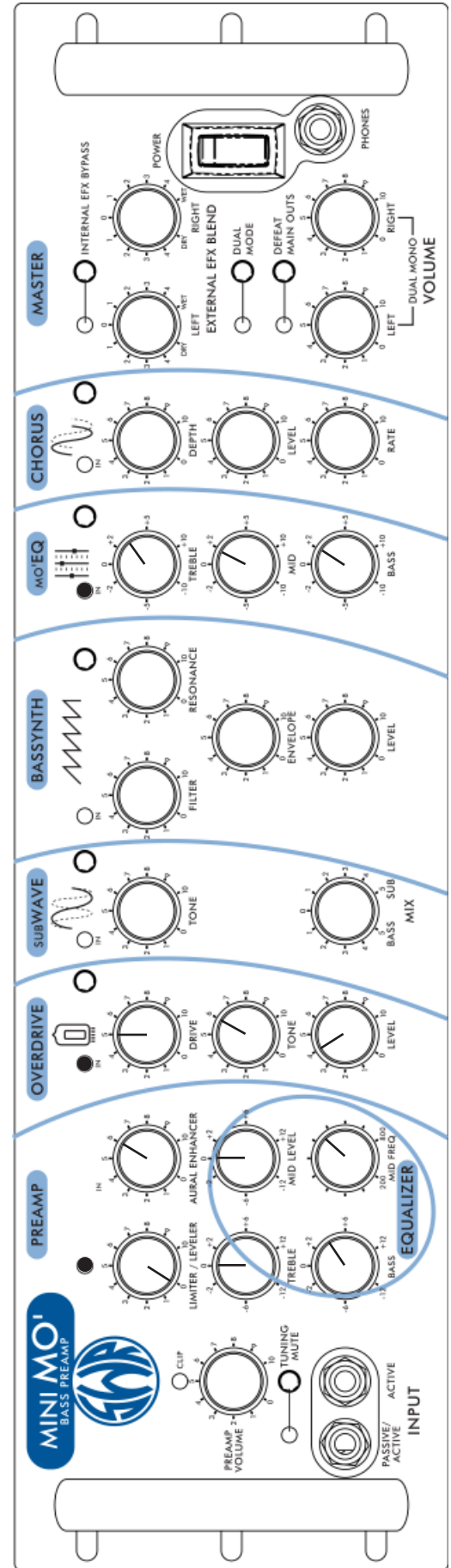
SONGS IN THE KEY OF MO'



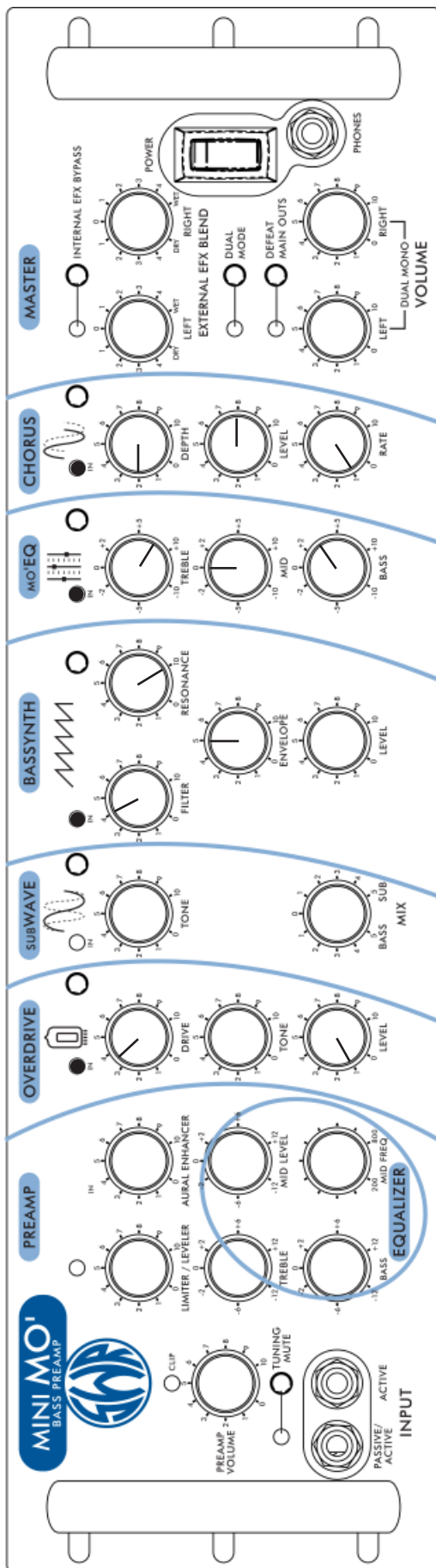
CHAMELEON



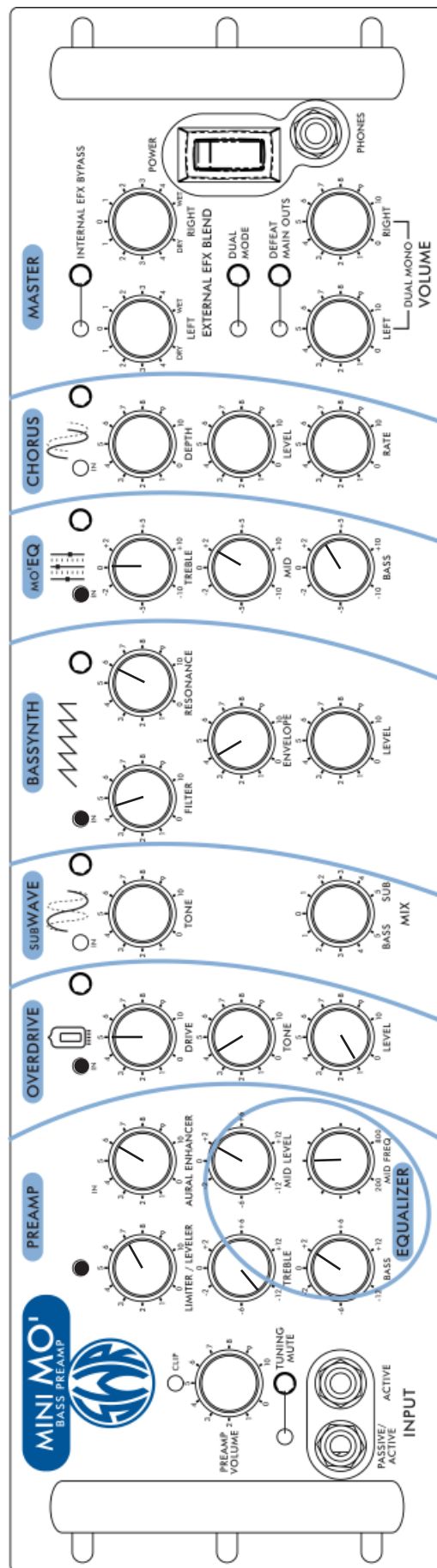
RAGE OVERDRIVE



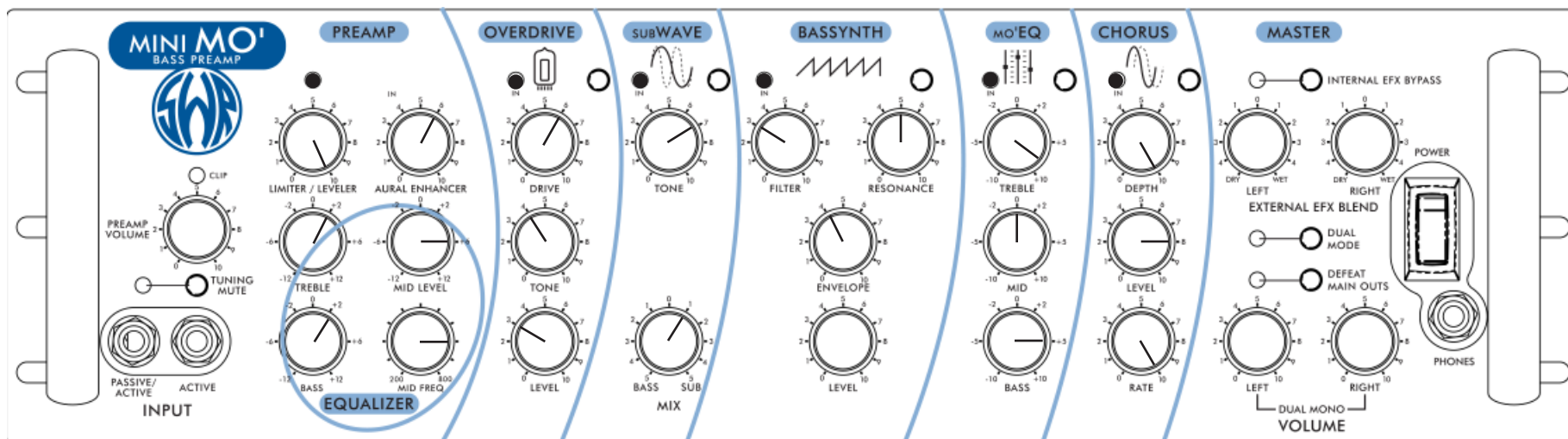
TOM SAWYER



VOODOO PRINCESS

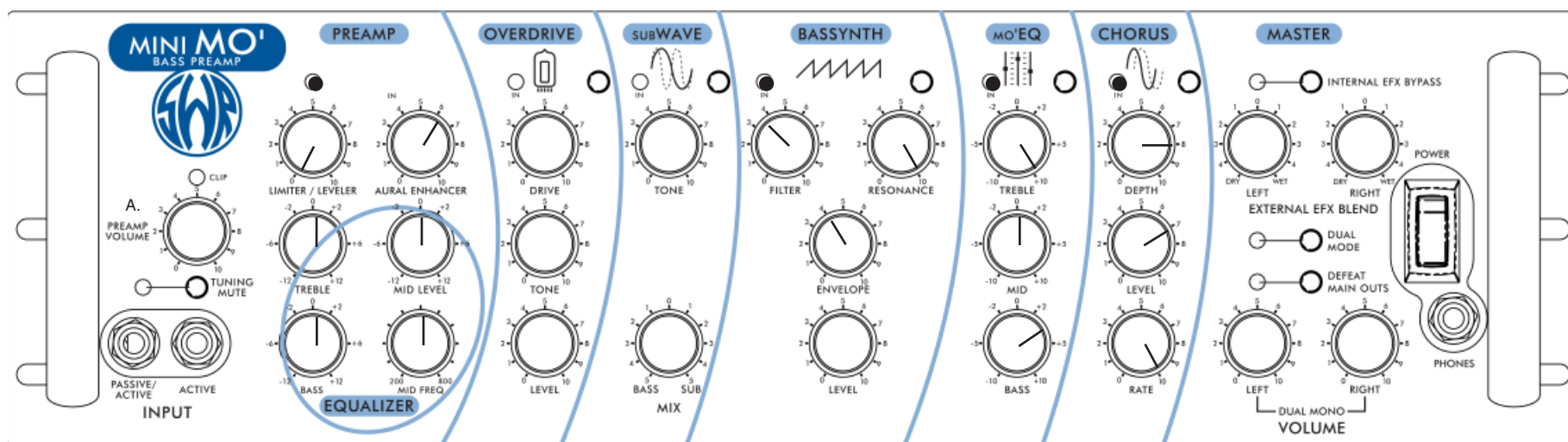


MARS ATTACKS!

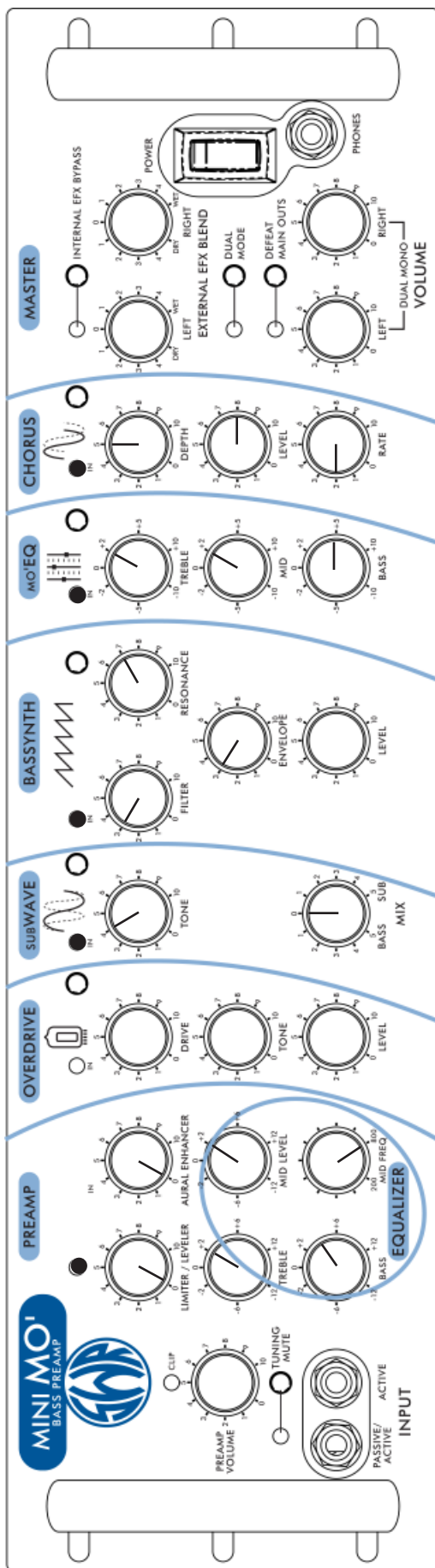


MINI-MO' "ARKESTRA"

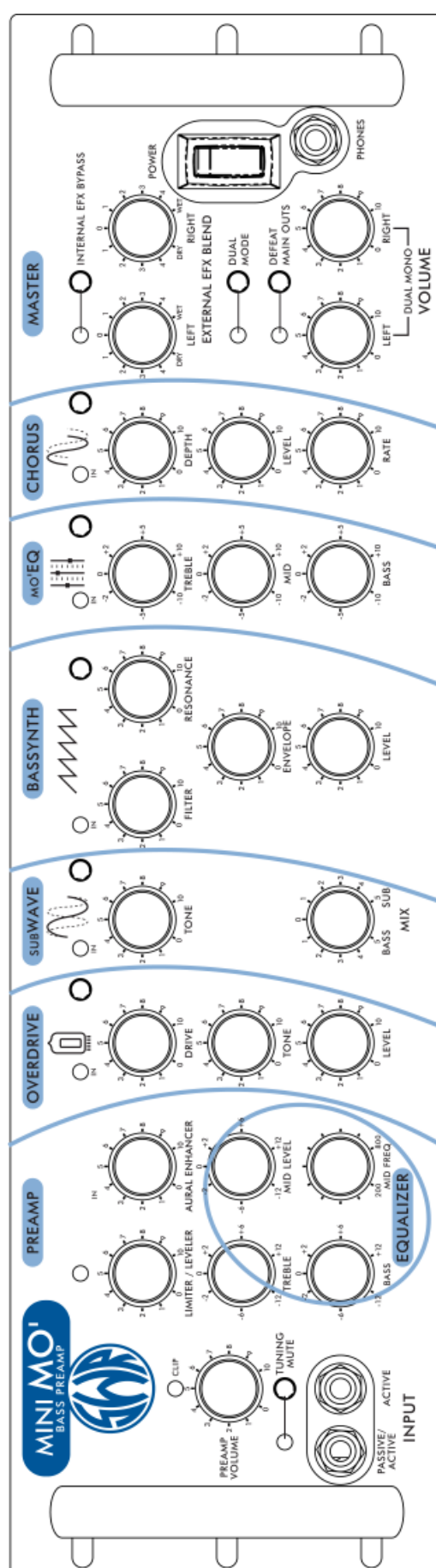
A. NOTE: set Preamp Volume at maximum under clipping for this setting



IN A MINI-MOOD



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MINI-MO' and MO' CONTROL 2 LIMITED WARRANTY

The ***MINI-MO' and MO' CONTROL 2*** from SWR is warranted to the original consumer purchaser for TWO YEARS from the date of purchase against defects in materials and workmanship, provided that it is purchased from an Authorized SWR dealer. This warranty applies only to products purchased in the USA or Canada.

This warranty is VOID if the unit has been damaged due to accident, improper handling, installation or operation, shipping damage, abuse or misuse, unauthorized repair or attempted repair, or if the serial number has been defaced or removed. FMIC reserves the right to make such determination on the basis of inspection by an Authorized FMIC Service Center.

All liability for any incidental or consequential damages for breach of any expressed or implied warranties is disclaimed and excluded herefrom.

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SHOULD YOUR SWR AMPLIFIER REQUIRE SERVICE OR REPAIR, PLEASE USE THE FOLLOWING PROCEDURE:

- 1** Locate your original receipt showing date of purchase, model and serial number.
- 2** Determine the closest Authorized FMIC Service Center to your location. The fastest way to get a complete list of Authorized FMIC Service Centers is on the web at:

<http://www.mrgearhead.com/faq/allservice.html>

You can also get this information by calling FMIC Consumer Relations at (480) 596-7195
- 3** To receive warranty service, return the complete product to an Authorized FMIC Electronics Service Center, with proof of purchase, during the applicable warranty period. Transportation costs are not included in this Limited Warranty.
- 4** Defective products that qualify for coverage under this warranty will be repaired or replaced, at FMIC's discretion, with a like or comparable product, without charge.

For a complete list of Authorized FMIC Service Centers, and the latest SWR news, interviews, and more, check out our website:

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